THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIV. NEW YORK, SATURDAY, MARCH 25, 1899. NO. 12.

ORIGINAL ARTICLES.

ABSCESS OF THE LUNG, WITH CLINICAL DATA.[1]

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THE following clinical histories deserve to be recorded because they exemplify the great difficulty often experienced in locating exactly one or more pus-foci in the lung; because they accentuate the importance of adhering to persisting physical signs as diagnostic aids most likely to be unfailing, in spite of repeated failure to prove that these are correctly interpreted; and, finally, because the prognosis in desperate cases of lung abscess is proved to be good, if such cases can be radically treated.

CASE I.—I had a satisfactory experience with abscess of the lung in the case of Charles L. S., the manager of a local brewery, aged thirty-four years, a temperate man, whom I first saw on February 16, 1895. He had a severe pneumonia with marked cardiac asthenia. During the period of convalescence, on the eleventh day, and four days after crisis he developed all the physical signs of pus-accumulation in the middle lobe of the right lung.

I refrain from giving in detail the history of this patient because it corresponds so closely with that of Case II., which I am about to report in full. However, I must add that the localization of the pus in the lung was exceedingly difficult. It was only found after three exploratory punctures. The lung was freely incised and drained while the patient was greatly exhausted. The incision was followed by considerable hemorrhage, but the patient made a perfect recovery, returning to his business about the end of May of the same year.

I have had occasion to examine this man repeatedly, and find that he now has a functionally active and normal lung.

CASE II.—On February 24, 1897, I was called to attend A. C. Y., aged twenty-six years, a young married man without occupation, of intemperate habits. He had been leading a riotous life, and had indulged in all imaginable excesses. He daily drank large quantities of whisky, absinthe, and brandy, and had also acquired the cocain habit. He was syphilitic, and had been repeatedly treated by myself and others for delirium tremens.

The family history shows the father to have died of angina pectoris; the mother and one sister are living and well. There is no tuberculous taint in the family.

The young man had been given to out-of-door sports, was well-nourished, and of excellent muscular development. He was of florid complexion, but his face was puffy from excessive drinking. Before the onset of his present illness he had been drinking much more than usual, owing to financial and other troubles. On February 23d he felt chilly, but had no well-defined chill. On the 24th, the day on which I saw him first, he had complained of great pain radiating through his right lung, more or less shortness of breath, and had begun to cough. It was evident that he was suffering from pleuropneumonia in its incipient stage, involving the middle and lower lobes of the right lung. His temperature was 101° F., pulse 90, respirations 37. Physical examination revealed a high-pitched percussion-note over the diseased area, exaggerated breathing, and a few friction-sounds. During the next two or three days all of the usual symptoms and physical signs of croupous pneumonia were manifest.

On February 26th the patient had delirium tremens in connection with pneumonia. The sputum was rusty; temperature, 104.8° F.; pulse, 120; respirations, 55. There was marked leucocytosis, 15,000 white blood-corpuscles in one c. mm. of blood. The patient was kept in bed with great difficulty, was continually picking at the bed-clothes, and imagined that he was to be taken away. The sputum, examined bacteriologically, showed pneumococci of Fraenkel, also abundant staphylococci. There was no marked change in the general or local conditions of the patient until March 1st, when there was a decided fall of temperature and improvement in heart strength, though the pulse continued above 100; the respirations were now 34.

The crisis was passed between the night of March 1st and the morning of the 2d. The patient was covered with profuse perspiration on the morning of the 2d. The symptoms of delirium tremens were considerably modified, but his mind was not clear. Toward the evening of March 2d the patient's mind became clearer, and he complained of intense pain on deep inspiration in the infrascapular and infra-axillary regions of the right side. These pains became so severe as to require the hypodermatic use of morphin. His temperature now was 104° F. He had a well-defined chill, the symptoms of delirium tremens were intensified, there was less expectoration, and the cough was dryer and shorter than it had been during the preceding days.

On the morning of March 3d the percussion-note over the painful regions was higher pitched than be-

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31 and February 1 and 2, 1899.

fore. The quality became flat during the day, there were but few crepitant or subcrepitant râles, and the breathing was more decidedly amphoric than bronchial. The character of the breathing, with increasing flatness, the sudden rise of temperature, and the chill aroused the suspicion of pus-accumulation, in consequence of which a long hypodermic-needle attached to a piston-syringe was introduced as a confirmatory maneuver. I failed to find pus, much to my disappointment.

On March 4th the patient was more wildly delirious, and the percussion-note over the area which had given flatness the day before was rapidly becoming tympanitic. The breathing was not purely amphoric, but yet decidedly musical in character. The sputum was more purulent (with blood streaks) than the day before. On the morning of March 5th, his temperature continuing high, the pulse being very rapid and unsatisfactory, and the physical signs in the right lung persisting, I again introduced the exploratory needle, but failed to find pus.

The pain continued to be severe in the right lung. The general appearance of the patient was not at all reassuring; his temperature had suddenly risen to 105° F. After a severe chill on the morning of March 6th, it was evident that the pneumonic process had extended to the left lung. The percussion-note in the left interscapular region and at the left apex was abnormally high-pitched and dull, the breathing bronchial, the voice-sound markedly increased, and vocal fremitus exaggerated. There were also abundant crepitant râles. The physical signs in the right lung were not materially changed. The sputum was now more bloody, was characteristic of the second day of a croupous pneumonia, and during the next three or four days there were all of the characteristic physical signs and subjective symptoms of a croupous pneumonia involving the left apex and the lung in the left interscapular region. The leucocytosis had disappeared after the crisis on March 2d, but now there were 14,000 white blood-corpuscles in one c. mm. of blood. While the pneumonia involving the left lung continued, the symptoms of delirium tremens were controlled by the use of chloral hydrate and the hypodermatic injection of morphin. The microscopic examination of the sputum showed abundant red corpuscles, leucocytes, pneumococci, and staphylococci.

March 7th, 8th, and 9th the physical signs were not materially changed. The pneumonia of the left lung was following a typical course. The physical signs in the right lung, which led me to conclude that there was either an empyema or a lung abscess, persisted, and on each of these days, after taking every possible antiseptic precaution, the exploratory needle was used with negative result, much to my chagrin. I had almost concluded, after having made six punctures with the needle, that my efforts were not to be rewarded with success. The patient was unconscious most of the time, and was not at all annoyed by the repeated prodding to which he was subjected. On the morning of March 10th it was evident that resolution had commenced in the left lung. The pulse, however, was very feeble, averaging 120 per minute during the morning, the temperature ranging between 103 and 104° F. There had been excessive perspiration during the night. During the morning the patient had a violent chill, which was followed by profuse perspiration. These subjective symptoms prompted me to make one more attempt to localize the pus in the right lung, but again the result was negative, and as I was to leave the city for a holiday on the evening of that day, I reluctantly turned the case over to Dr. Curtin.

Toward the evening of March 10th the condition of the patient became so serious that I was asked to see him once more before leaving the city, and in company with Dr. Curtin examined him thoroughly without finding any change in the physical signs. These seemed to me so conclusive that I could not leave the city content without making a final attempt to localize the pus, and in the presence of Dr. Curtin introduced the needle once more, and in withdrawing the piston filled the syringe with a dirty, foul-smelling pus. The few instruments which I needed were hurriedly sterilized, and under cocain and methyl chlorid I opened the right pleura, making a liberal incision in the seventh intercostal space, the center of which was on a line drawn from the angle of the scapula downward. The was no pus in the pleural cavity. On introducing my index-finger into the pleural cavity I found but few adhesions of the lung to the pleura, but felt a fluctuating mass just beneath the pleura in the dependent part of the lung, which I readily opened, and gave exit to about half a pint of pus of the same character as that which had been withdrawn by the needle. As we were not supplied with gauze, I introduced a large-sized drainage-tube into the lung cavity, which was anchored to the chest-wall, thus establishing free drainage. There was slight hemorrhage on cutting into the subpleural lung tissue, which gave little trouble after the pus had been emptied.

Dr. Curtin cared for the patient during the next ten or twelve days. He remained more or less delirious, the drainage was free, there was abundant pus discharge, his temperature remained nearly normal, his pulse improved in character, there was no recurrence of chills, and the left lung gradually returned to its normal condition. The sputum was repeatedly examined for tubercle bacilli, with negative results. In about two months drainage was no longer needed, and about the end of May the wound had completely closed, the percussion-note over the original seat of the abscess was slightly higher pitched than normal, air entered to the base of the lung, the patient had no cough, had gained weight, had discontinued the use of stimulants of all kinds, and was to all appearances perfectly well. In spite of the fact that he has returned to his former intemperate habits, he has had no further lung symptoms, though he has had repeated attacks of delirium tremens.

CASE III.—On September 1, 1898, I was called to treat Lupeta F., a girl, aged seven years, born of American parents in Mexico, with negative family

history, and without hereditary taint. Until her fifth year she had enjoyed excellent health, was an unusually bright and active child, but of decided nervous temperament. From the fifth year to the time of her illness she had suffered from repeated attacks of vomiting, supposed to have been due to gastro-intestinal indigestion, associated with moderate pain in the epigastrium. She was taken sick one week before I saw her, during my absence from the city, and had been attended by Dr. Van Duyn, who turned the case over to me at the time above mentioned.

The symptoms during the week preceding my first visit were rather vague, and did not justify a diagnosis. It was supposed during the first days of her illness that she was suffering from one of her usual attacks, but with more pain than before. When I first saw her it was evident that she was very ill. The pains which were present during the first days of her illness were of a severe shooting and darting nature, radiating through the lower thoracic and upper abdominal regions. Occasionally she retched and vomited, but had no cough. Her temperature had ranged between 102° and 103.5° F., her pulse was uniformly rapid, above 130, and her respiration averaged between 20 and 25. Dr. Van Duyn reported negative signs on physical examination. The symptoms on September 1st strongly resembled those of typhoid fever. There was continuous fever, more or less delirium, considerable intestinal distention, with rapid pulse and slight enlargement of the spleen.

Careful physical examination elicited an abnormal high-pitched note over the left apex. There was normal vesicular breathing. The changed percussion-note was the only physical sign to arouse suspicion. As the child had lived most of her life in Mexico we were prompted to make a blood examination, which, however, proved negative as far as hemocytozoa and Widal reaction were concerned.

September 2d the temperature reached 105° F., pulse 120 to 140, and respirations between 20 and 30; no other important symptoms. On September 3d, temperature 103° to 104° F.; later, 105° F.; pulse 130 to 140; respirations between 28 and 36. My record shows that on this day I detected a slight dulness at the base of the right lung. Otherwise there were no subjective or objective symptoms. There was no cough. September 4th, temperature remained between 101° and 104 F., respirations between 36 and 40. The changed percussion-note at the base of the right lung was positive. Flatness was now persistent from the angle of the scapula to the base of the lung, and there was weakened voice-sound and breathing.

There were sudaminæ over the entire body. The dulness at the left apex persisted without further change. On September 5th the flatness had extended higher up, there was absence of voice and breathing sounds, vocal fremitus was diminished, and the temperature remained as high as the day before. The nurse reported one large roseola on the back. Widal reaction negative; no other symptoms of typhoid.

The child's mind remained clear. A long exploring needle attached to a glass syringe was introduced with the firm belief that there was an accumulation of pus in the pleural cavity. No pus was found. On September 6th, 7th, and 8th the physical signs and general condition of the patient remained the same. The temperature remained as high as before, there was but little cough, and no expectoration; there was a marked leucocytosis, the pulse was growing more feeble, and the heart-muscle showed evidences of degeneration. On September 9th the condition of the child became alarming; the physical signs persisted. In the absence of symptoms of pneumonia, and because of the gradual increase of flatness at the base of the right lung from day to day, I decided to put the child under chloroform and again search for pus. Assisted by Dr. Jacobson, who agreed with me in my suspicion, the child was carefully examined. She took the chloroform kindly. We explored in various directions, making five or six punctures, but failed to locate the pus. This experience satisfied us that we were not dealing with an empyema, but in all probability either multiple pus-foci with infiltration of lung tissue, or acute extensive infiltrating tubercle alone. Examination of the blood, which was obtained with the exploring-needle, gave negative results.

From September 10th until September 18th two attempts were made to find pus in the lung. The symptoms grew more alarming from day to day while the physical signs persisted; the temperature averaged 104° F., pulse 140. On September 18th I recognized a small area of amphoric breathing in the infra-axillary region of the right lung; otherwise physical signs were unchanged. There was but little cough, no expectoration. On September 19th an exploratory puncture was made. The blood withdrawn was examined bacteriologically, and found to contain only a few leucocytes, no tubercle bacilli, a few staphylococci. On September 20th the temperature had reached 105.2° F., the pulse was so rapid and feeble that it could scarcely be counted, averaging between 160 and 200, and the respirations were from 40 to 60.

Drs. Jacobson and Van Duyn were called in consultation. Both examined the child carefully, and were impressed by the physical signs, which we concluded were due to one of three conditions: either complete consolidation of the lung with occlusion of a bronchus, of tuberculous or inflammatory origin, abscess of the lung, or encapsulated empyema. It was evident that the child could not long continue in her present condition. We explained to the parents the uncertainty of affording relief by surgical interference, but were agreed that an exploratory operation offered the only hope of saving the child. Accordingly, the patient was once more chloroformed, and under strict antiseptic precautions I made an incision between the seventh and eighth ribs, the center of which formed a right angle with a line drawn from the angle of the scapula, and opened the right pleural cavity, in which no pus was found. The incision was en-

larged, the ribs readily drawn apart, and the index-finger introduced. There were no adhesions of the lung to the pleura, but the lung-tissue felt hard and abnormally dry. The exploring needle was introduced into the lung to the depth of about three inches through the opening between the ribs, and we were rewarded with success, withdrawing pus. The lung was incised. There was moderate hemorrhage. The incision was enlarged with the finger, which was introduced to the depth of about three inches, when a moderate flow of pus followed. Twenty inches of iodoform gauze was packed in the lung for drainage. The wound was dressed antiseptically.

The general condition of the child was not influenced by the operation. She was desperately ill during the following two weeks. There was free drainage of pus from the lung; some days there seemed to be more than others. It seemed as if innumerable small pockets of pus found exit from time to time along the line of least resistance. The child required stimulation and careful watching during many anxious days. The physical signs commenced to improve about October 5th, the flatness gave way to dulness, gradually there was a return to normal resonance, and by Christmas the little one was able to be about the house. After three or four weeks of gauze-drainage a rubber tube was substituted. This was finally withdrawn, having been shortened from time to time as we progressed in the treatment of the case. At no time after the operation was there expectoration of blood; neither was there much cough. After Christmas there were absolutely no symptoms referable to the lung. The child gained in flesh and weight, had normal appetite, and, as her parents expressed themselves, was in every way better than at any time since her fifth birthday.

The subsequent history of this case is of intense interest. Unfortunately, after convalescence and while the child was enjoying freedom from all symptoms, about January 5, 1899, there was a recurrence of vomiting, which soon proved to be of meningeal origin. During the next few days the symptoms of basilar meningitis, with paralysis, developed, and the child died on January 16, 1899, of tubercular meningitis.

In the first two cases reported it is very evident that the lung abscesses followed pneumococcic and final staphylococcic infection. The abscesses were subpleural, such as Bushnell has recently described. Such cases are not at all rare, but I am well satisfied that in the majority of these the complication is not recognized, and the patient finally dies from exhaustion, pyemia, or sepsis, or Nature comes to the rescue, and the abscess ultimately communicates with the bronchus or with the pleural cavity. In 150 cases of pneumonia, which I recently reported, I diagnosed abscess of the lung three times, and in 750 cases reported by Sello there were eleven cases of lung abscess, which would show the complication to occur in about 1.5 per cent. of pneumonia cases.

In Case III. it is more difficult to explain satisfactorily the infection which led to the suppurative process in the right lung. The unfortunate ending of this case would strengthen the conclusion that the dulness which I detected at the left apex on my first visit was in some way related to the abscess in the opposi e ung. Possibly, there was here a central focus of latent tuberculosis to which pyogenic cocci had been added which may have been aspirated or migrated from this point through some of the many avenues of escape to the opposite lung, and multiple abscesses resulted. The subsequent history of this case proves still further that the child had been suffering since its fifth year from solitary tubercle of the brain, which was responsible beyond doubt for the repeated attacks of vomiting, and from which the general basilar meningitis ultimately spread. Th · roseola which the nurse found on the child's back during the early days of the disease was probably of cerebral origin, a true *tache cerebral.*

Cases of solitary brain tubercle are frequent, as is proven by the recent work of Bruns, who found solitary tubercle present in five of thirty-one cases of brain tumor studied by him. This pathologic condition has been confirmed by others. It has been my experience that in these cases there is not infrequently a long prodromal period during which the symptoms are vague, but if carefully studied one is made suspicious, at least, of brain disorder. If there was infiltrating tubercle associated with the abscess, the admission of light, air, and drainage were sufficient to dissipate all external evidences of its presence, for all the physical signs of disease had disappeared. Unfortunately, a post-mortem was not allowed.

It may be concluded that there are no distinctive physical signs of lung abscess, but, nevertheless, as in the cases reported, the presence of markedly changed tissue, as shown by objective symptoms referable to the lung, must lead to a strong suspicion of pus accumulation when the presence of all other lung and pleural diseases have been excluded by bacteriological and clinical methods. Indeed, what Leube says of the diagnosis of abscess of the liver is equally true of abscess of the lung. He holds that we are not to diagnose the former until we have excluded all other liver diseases. Of course, in almost all cases the abscess is secondary, and we have the preceding history to aid us. The physical signs must necessarily depend largely upon the variety of abscess, whether of bronchogenic, hematogenic, or pleurogenic origin. Recent medical literature strengthens the conclusion that the majority of patients with lung abscesses recover if they are radically treated. I can imagine no cases more des-

perate than those which I have reported, and the results certainly warrant a careful search where lung abscess is suspected.

The persistent use of the exploratory needle, with or without pleurotomy, is indicated, for in no other way can the diagnosis be corroborated. I have made many exploratory punctures—no harm has come from any of them—and I have had the satisfaction of saving many lives by the aid which this method of diagnosis has given. These explorations have led me to open freely into the pleural cavity in cases of recurring tuberculous pleurisy with the same success which has delighted the surgeon in cases of peritoneal tuberculosis. The history of Case III. would at least warrant the suspicion that superficial lung tuberculosis may ultimately prove to be favorably influenced by incision, drainage, and the admission of air and light.

THE DIAGNOSIS AND MANAGEMENT OF OCCIPITO-POSTERIOR POSITIONS IN LABOR CASES.[1]

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THE diagnosis and management of occipito-posterior positions have given me more anxiety and caused me more hard work than any other single class of cases which I have had to manage. The importance of a close study of this particular abnormal presentation has been impressed upon me after an experience of sixteen years of more or less active obstetric work, during which time I have had upward of thirty cases of persistent vertex-posterior presentation, nearly all of which required instrumental aid in delivery. The infant mortality, the damage done to the maternal soft parts, the prolonged suffering and shock to both mother and child, and the outlay of strength and skill on the part of the obstetrician in the management of these cases justify our earnest consideration of this subject.

At the end of pregnancy the cephalic end of the child presents in nearly 97 per cent. of all cases. In 75 per cent. of all head presentations the occiput points to the left side of the mother, and in 73 per cent. anteriorly. There remains, then, 25 per cent. of cases in which the occiput points to the right side of the mother, the great majority of them posteriorly. A large proportion of these right posterior presentations become right anterior by a process of rotation during the second stage of labor and are, therefore, uncomplicated. It is only those cases that remain persistently right posterior that will present unusual difficulties in management.

The diagnosis of right posterior position of the vertex is, I believe, rarely made in private practice, most physicians being content when they have learned the mere fact that the head presents. That this is very far from being a complete diagnosis in any case I abundantly proved in the earlier years of my own experience. Granted that it is important to know that the head presents at the beginning of labor, it is more important to know the relative position of the vertex to the pelvis. That it is possible to make a correct diagnosis of the presentation at the first examination in a majority of cases there can be no doubt even at the very earliest stage of labor, or, better still, before labor has actually begun. This may be done chiefly through the abdominal walls. The gynecologist becomes expert in the diagnosis of tumors by abdominal palpation, bimanual manipulation, etc. Why should not the obstetrician become equally expert in determining the position of the fetus in utero by the same methods? It is undoubtedly true that the lives of many infants might be spared if more intelligent methods of determining and correcting malpresentation were observed early in labor. It is probably also true that the number of idiots and epileptics might be greatly lessened if more scientific methods of delivery were adopted instead of the almost universal use of the obstetric forceps regardless of position or presentation and regardless of the amount of injury to the fetal head. Abdominal palpation and auscultation are practised in all lying-in asylums as a matter of routine just as much as the careful attention to the details of asepsis and the weekly examination of the urine. In a recent report of the Preston Retreat in Philadelphia Dr. Richard Norris says, "Diagnosis by abdominal palpation is highly valued and constantly practised." Of course in private practice opportunities for examination are not so great and conveniences not so many as in institutions, but if one appreciates the importance and necessity of an early diagnosis of presentation and position it is no more difficult to make these examinations than it is to examine the urine, a duty but few physicians neglect in these days.

The exact method of diagnosis by external means is described as follows by Reynolds of Harvard: "Abdominal inspection is mainly valuable as affording a hint of the existence of transverse presentations and of multiple pregnancy. . . . Palpation is the most important part of the abdominal examination. It should be performed only in the intervals between the pains provided labor has already begun, all pressure of the hands being intermitted with the appearance of each contraction. The physician standing by the patient's side facing toward the feet presses the finger-tips of each hand

[1] Read before the New York State Medical Association.

with a gradual and gentle motion downward behind the symphysis pubis in search of the fetal head, which, in cephalic presentation, is almost always to be felt in this situation as a marked transverse check to the examining hand. In this examination care should be taken to note on which side the head is most plainly perceived, since with a well-flexed head the frontal extremity is much the more easily reached; with the partially extended head but little difference is to be noticed, and in face presentations the occiput is much the more distinct. . . . The fundus should then be palpated as a further means of excluding a breech presentation. . . . In determining the position of the fetal head the hands should be placed along the sides of the uterus and should make gentle but deep pressure toward each other, that is, with the uterus and child directly between their palms in the effort to estimate the relative resistance offered by the right and left side of the uterus, the flat, firm back of the child usually presenting a resistance to pressure that is markedly greater than that of the yielding abdomen and the movable limbs."

Jewett says on the same subject: "The child's back is identified by the length and breadth of the resisting plane which is offered to the examining touch, and by absence of a sulcus between it and the fetal head. The side of the child presents a narrower plane than the back and a distinct sulcus separates it from the head. The small parts are usually felt as nodules which glide about under the touch. . . . By palpation, then, we ought to be able to determine not only the presentation but the position because the occiput must point toward that quarter of the pelvis in which the fetal back is found. Excluding those very infrequent positions, O. L. P. and O. D. A., it will be safe to say that all cases in which the back of the child points to the left side of the mother will be occipito-left-anterior, and all those in which it is found to the right side of the mother, occipito-right-posterior."

It is certainly strange that we have not more generally practised abdominal palpation as an aid in determining the presentation and position of the fetus at the beginning of labor. I have never seen it carefully undertaken by any physician and none of the older text-books contains any adequate descriptions of the method to be employed. Auscultation gives valuable evidence as to the condition of the fetus and may help one somewhat in recognizing its position. In vertex presentation the heart-sounds are heard most distinctly below the umbilicus, on the right or left side of the mother, according to the position of the back of the child. Bimanual manipulation is used chiefly in determining the degree of flexion or extension of the head and is of great importance in management, it being a valuable means of assisting flexion as well as rotation during the second stage.

Most of my cases have been in primiparæ and in these especially the careful exploration of the abdomen externally will be of much more value in determining the position than the vaginal touch. In fact very little can be learned by digital examination alone in a primipara because the soft parts are generally rigid and unyielding, and the resistance of the patient to prolonged examination at such times is very considerable. Still it may be possible after long experience and carefully educated touch to determine the position of the fetal head by noting the relative location of the large anterior and small posterior fontanels and the general direction of the sutures leading from them. But it is exceedingly difficult to satisfactorily locate either sutures or fontanels through the walls of the cervix or through the unruptured membranes, and it is well to repeat that the diagnosis of right-posterior position must be made early and before the membranes are ruptured if it is expected to correct the malposition by any manipulation aside from operative interference.

The last point with reference to diagnosis of posterior position to be mentioned is one peculiarly characteristic, *vis.*, prolonged first stage. In a given case in which a woman has been in labor from four to six hours or longer with but little advancement of the head, with slight dilatation of the cervix, with irregular and imperfect contractions of the uterus, with an apparent inability on the part of the patient to make the ordinary expulsive efforts, then one may suspect a vertex-posterior position. In such a case if every means has not already been adopted to determine with accuracy the exact position of the fetal head now is the time to do so. Abdominal inspection, palpation, bimanual manipulation, and auscultation of the fetal heart should now be practised in addition to the digital search for the fontanels and sutures, the examiner being careful not to rupture the membranes.

Having determined that the condition is one of R. O. P. presentation, how shall one proceed to deliver a living child with the least amount of injury to the mother? Its successful management will depend largely upon an early diagnosis. It will be exceedingly fortunate if we have made this diagnosis some weeks prior to term, as then much may be expected from postural treatment. When the patient is placed in the knee-chest position the anterior wall and fundus of the uterus are its lowest parts, and by influence of gravity the position of the child must be somewhat changed. If its head drops away from the

pelvic brim it will then be free to rotate on its axis. This position should be assumed by the patient several times daily, as long a time as possible before labor, at least, three or four weeks. She should remain in this position several minutes each time, and then recline on her side a short time before rising, in the hope that as the child's head again settles down against the brim it may attain an anterior position. The position must be such that the abdomen does not come in contact either with the bed or with the thighs of the patient. If no examination of the patient has been made prior to the commencement of labor it is still worth while to try postural treatment. The position must now be maintained as long as possible and between pains it may be possible to aid rotation, but this is doubtful as any manipulation of the uterus externally increases the frequency and force of the contractions and so defeats the object desired. With a tractable patient, who will assume this position and remain there until rotation has taken place, one may succeed in engaging the head in the anterior position and keeping it there, the patient keeping the prone position as much as possible with this end in view.

As before stated, a good proportion of these right posterior presentations become right anterior by a natural process of rotation during the second stage of labor, but the process by which this rotation is accomplished is, unfortunately, so delicately balanced that it is always likely to fail. It is only in those cases in which the vertex remains persistently right posterior that unusual difficulties in management will be presented.

The mechanism of labor in R. O. P. positions is quite complicated, and it will be sufficient here to say that it is necessary that the fetal head should enter the pelvic brim well flexed in order that the subsequent progress may be satisfactory and that upon the amount of extension will depend the difficulties to be encountered. That is to say, the more the head is extended, the more difficult will be its passage, and the less likelihood of rotation. From the nature of things, there being a mechanical misfit between the head and the pelvis, extension is likely to take place more or less markedly during the slow passage of the head through the superior strait, and a decided molding of the head also. Therefore the principal duty of the accoucheur at this time is to make quite frequent examinations in order to mark the degree of extension and antagonize it as much as possible. It is not wise to wait until both mother and child are exhausted. Unless there is pretty prompt progress, interference will quite surely be necessary. Before deciding exactly what course to pursue, the dimensions of the pelvis should be carefully estimated, or better still, accurately measured, and also the fetal head, so far as possible. If the patient be a primipara the rigidity of the soft parts must also be considered. If there be quite a roomy pelvis and easy adaptation of the head, careful bimanual manipulation before rupture of the membranes may succeed in pushing the forehead of the child upward and foreward, freeing it from the brim, in the hope that on its re-entrance it may be better situated. After rupture of the membranes it will be well to anesthetize the patient, dilate the os sufficiently, and then introduce the hand and push the forehead upward until it touches the chest, and maintain this complete flexion by pressure upon the head through the abdominal wall until the occiput has been well forced down by the uterine contractions. These directions I have followed out carefully in quite a large number of cases, but with not very flattering success.

Three methods of delivery are now possible, *viz.*, manual rotation and immediate application of the forceps; forceps without rotation; and podalic version. In skilful hands the first method is probably under all circumstances the most satisfactory, and certainly the most scientific, but it is difficult to perform and rather than make protracted efforts at manual rotation it would be much wiser to perform version at once. It has been my fortune or misfortune to have about thirty of these persistent posterior positions to manage, and it is my belief that in the majority of cases, taking into consideration the safety of both mother and child, the forceps, carefully and skilfully handled, without protracted attempts at rotation, offers the best means of terminating these cases. The amount of traction is a matter of consideration. Only after considerable experience can the safety line in this respect be determined. Traction should only be practised during uterine contractions, and in the interval the forceps should be unlocked and the head pushed back slightly. Continued pressure of the locked forceps, or holding on to them to prevent the head from receding, should never be practised. If good progress follows quite promptly there need be no fear as to an ultimate safe delivery. If great disparity exists between the diameter of the pelvis and the fetal head, or if there be uterine inertia, or if the mother or child seems unable to endure the prolonged strain, or if the condition of the soft parts of the mother makes it probable that great damage will be done, as extensive laceration, etc., then the forceps should be removed at once and with the patient completely anesthetized podalic version should be performed. It is probably true that there is less danger of laceration in delivery with forceps in anterior positions

than in the extraction of the after-coming head in version.

In every case attempts should be made at rotation, whether the membranes have ruptured or not. If the liquor amnii has pretty well drained off, then there will be less probability of success and the forceps may now be applied without rotation. If the pelvis is fairly roomy and the fetal head not unduly large or ossified, the accoucheur will be able to bring the occiput down with the head well flexed, and keeping in mind the normal mechanism, assist in the rotation of the occiput down and to the right, and finally bring it out under the pubes through the outlet in almost a normal right anterior position. In three instances I have been able to accomplish this, thereby preventing the extensive laceration of the perineum that must surely occur when the occiput is dragged out in posterior positions.

The safety of the child will, of course, depend largely upon the length of time consumed in the delivery, the amount of pressure produced by the forceps, and the degree of adaptation between the head and the pelvis. In normal labor pressure upon the head is intermittent and the molding process a slow one. During instrumental delivery one should imitate Nature as far as possible. Unless the head rotates into an anterior position as it passes through the pelvic outlet, the pressure of the frontal and parietal bones against the pubes of the mother will be tremendous, and will likely produce fatal injury to the child's brain. If care and patience be exercised and time given for the slow molding of the head, a living child will usually be delivered. I do not believe that the risks to the child in posterior positions are much greater in skilful delivery with the forceps than in version. Five infants in my thirty cases have been still-born. Three of these were delivered with forceps and two by version. All of the others were delivered with forceps, after attempt at manual rotation. In three, as above stated, rotation took place during the second stage. In only one instance was the result bad for the mother, and this only resulted in prolonged convalescence on account of neuritis from pressure, and laceration of the cervix and peritoneum.

NASAL CATARRH IN CHILDREN; ITS CAUSE AND TREATMENT.[1]

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Is it of importance to consider catarrhal diseases of the nose and throat in children as a condition widely different from that in adults? Are the pathologic conditions and the etiologic processes which produce nasal catarrh in the young different from those which we recognize as being present in older people? Nasal catarrh in children would seem to be a very prevalent disease if we include under this broad heading those many cases of mouth-breathing patients who present themselves at clinics and in private practice with the nostrils obstructed by mucus or mucopurulent secretion. It is because many practitioners seem to be in the habit of considering all these cases as types of simple nasal catarrh, and apparently do not recognize the real pathologic condition, that I believe it is wise to consider these affections somewhat more in detail. I see, as I believe we all do, many of these cases which are diagnosed as simple nasal catarrh, and which are treated with nothing more than a nasal spray, which certainly deserve other and better attention.

It seems wise in the beginning to consult the writings of those practitioners who have given special study to the general ailments of children and obtain their views in regard to nasal catarrh. Their opinions should have weight, not only because based on large experience, but because their point of view, seeing as they do children at home suffering from acute diseases, may be quite different from that of the rhinologist who sees his patients only as they come to the office. It is only within the last few years that text-books on diseases of children have treated the matter of nasal catarrh in children in more than a casual manner Either the subject has been superficially treated or else the matter would seem to be a repetition of what one might expect to find relating to the nasal catarrh of adults in works on rhinology. In two older text-books we notice that nasal catarrh is described under the chapter devoted to measles. We find the subject usually treated under the two general heads of acute and chronic; and such writers seeing, as they do, children passing through the various diseases of childhood, the eruptive fevers, most of which are accompanied by *acute* coryzas, naturally lay great stress on the importance of these in developing *chronic* nasal catarrh. We find a strong tendency, and perhaps not too strong, in such writings to lay great stress upon the importance of heredity as a predisposing cause to nasal catarrh, and the statement is common that enlargement of the faucial and nasopharyngeal tonsils is in itself strongly indicative of a scrofulous or tubercular diathesis. At first thought this would not seem to us to be true; it certainly is not borne out by our experience, but we must remember the general practitioner sees con-

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, November 23, 1898.

stantly the rachitic, scrofulous, poorly nourished little patients who pretty generally have post-nasal adenoids, whereas the stronger and more robust children, who are not ill enough to require the services of the family physician, go to the office of the nose and throat specialist. It can be definitely stated that we see a large number of children who have enlarged faucial tonsils and the post-nasal space blocked with adenoids who are the picture of health. It is true that in many instances if these children are not relieved by operation the evil effects arising from closed nostrils will show themselves in the many disastrous ways which are common to mouth-breathing children. In many text-books, too, we find the term "catarrhal diathesis" employed, but we cannot believe that this should be considered a very tangible factor, because we find catarrhal diseases present to such a large extent in children of the best physical types.

From our standpoint many of the writers on diseases of children lay altogether too much stress upon the importance of a child's tendency to scrofula, tuberculosis, or syphilis as predisposing causes to chronic nasal catarrhs, and fail to search for and discover *local nasal lesions* which are the important etiologic factors in making any transient nasal disturbance a chronic process. One can hardly dispute the writer who says that chronic rhinitis is invariably due to some fault of the general health, because it is difficult to prove that any child is as well as it might be. But in nearly all the cases of chronic nasal catarrh which we see in children we are in the habit of finding some local lesion which has made an acute catarrhal process a chronic one. The evils of overheated houses, badly ventilated rooms, and unsanitary conditions generally are emphasized in books on pediatrics, and cannot be too strongly dwelt upon. It is very possible that these causes are sufficient to lower the vitality so that the special germs which attack the nasal tissues are potent to produce catarrhal inflammations. Physicians specially interested in children's diseases believe that the exciting cause of catarrhal inflammations of the upper air-passages is, first, the involvement of the mucous surfaces during the eruptive fevers, and after that all general causes which tend to lower the vitality, while the rhinologist usually finds in some local nasal condition, if not the exciting cause of the coryza, at least a reason why it has become chronic and persistent. Both Dr. Jacobi[1] and Dr. Holt[2] speak of the various local nasal lesions in defining the causes of chronic nasal catarrh, such as polypi, adenoids, enlarged tonsils, deviated septa, etc.

We should state in the beginning that we shall have very little to say in regard to the acute coryzas in infants or in young children which precede or accompany the eruptive fevers and diphtheria. The family physician alone has the opportunity of treating this class of cases, while the office practitioner sees them only when they excite, as they very frequently do, a chronic rhinitis or some post-nasal affection. It would be of great value if the family physician would notice how often these acute coryzas do eventuate into chronic affections, and how frequently they excite the growth of lymphoid tissue in the middle and upper pharynx. These acute coryzas require treatment, but perhaps not materially different from that indicated in any acute coryza.

It may be convenient to divide catarrhal conditions of the nose in children under the heads of acute and chronic, and still farther into simple catarrhal or purulent, and again into hypertrophic and atrophic. For example, a nasal catarrh may be in type chronic atrophic with a purulent discharge, or it may be chronic hypertrophic with a simple catarrhal discharge, these names indicating the pathologic condition which is found and the character of the nasal discharge, rather, perhaps, than a well-marked disease which can always be differentiated from every other variety, because catarrhal discharges frequently become purulent for a time, and a hypertrophic process may degenerate into one of atrophy. Two other terms, which we think are convenient, not for stating the pathologic condition but for defining the cause, are idiopathic and symptomatic, the idiopathic catarrh usually being acute, such as an influenza, or such a severe coryza as accompanies the exanthemata; whereas in the symptomatic nasal catarrh the disturbance and the discharge are symptoms of some local lesion, such as tissue hypertrophy, deviations of and spurs on the septum, nasal polypi, foreign bodies, syphilitic ulcerations, and nasopharyngeal catarrh, either accompanied or unaccompanied by adenoid enlargement. We see all the time acute coryzas in children which are only symptomatic of a chronic pathological condition in the nose or pharynx. Some one has said that the frequently recurring attacks of an acute coryza or a persistent coryza in a child, would indicate a syphilitic or tubercular history. We believe that such an etiology is rare compared with the large number of cases in which acute exacerbations are due to post-nasal adenoids. We should like to state our position clearly as believing that in ninety per cent. of all cases of chronic nasal discharge occurring in children, who, as their par-

[1] Jacobi, "Therapeutics of Infancy and Childhood," p. 465, 1898.
[2] Holt, "Diseases of Infancy and Childhood," p. 432, 1897.

ents express it, constantly take cold on the slightest exposure, the nostrils being filled with a secretion of mucus and pus, the principal cause is the presence of some degree of enlargement of the nasopharyngeal tonsil which may or may not be accompanied by enlargement of the faucial tonsils. We even see nostrils blocked with discharge in the early stages of an atrophic rhinitis, in which the important constant lesion is post-nasal adenoids. We know that observers disagree as to what should be considered enlargement of the pharyngeal tonsil, but we feel that it requires only a small amount of adenoid hypertrophy to block up the nostrils, prevent drainage both forward and backward, and eventually produce a chronic nasal catarrh in young patients in whom the post-nasal space is so small and the patient too young to use what little space there is for clearing the nasal passages either by blowing the nose or forcibly drawing the secretions down into the middle pharynx. That a very small amount of adenoid tissue may be the entire cause of the mischief is frequently proved by the fact that when this little is removed and the nasal chambers are cleared, what has been called a chronic nasal catarrh disappears.

We can in a very words state all that we know in regard to purulent rhinitis in children. This disease is mentioned by a few writers, but hardly by anybody at more length than by Dr. Bosworth[1] of this city. He considers it a frequent disease in children, and one that resolves itself finally into an atrophic rhinitis. If there is any special germ which produces this disease it certainly is not known at present. The significant symptom of this, Dr. Bosworth says, is a bright yellow discharge of pus from both nostrils. I cannot believe that such a condition is common. How often do we see a bright yellow discharge of pus from both nostrils in children unless there should happen to be bilateral inflammation of the antrum or ethmoid or both? We must not confound a *unilateral* discharge of pus, which may be produced by a foreign body, syphilitic ulceration, necrosis, or empyema of some one of the sinuses, with this purulent rhinitis. We are quite willing to admit that there is frequently a semipurulent discharge in children in atrophic rhinitis, and perhaps during acute exacerbations the secretion is almost entirely pus, but this is but temporary, and the discharge soon becomes only partially purulent. I believe this type of disease should be called atrophic rhinitis from the beginning, and that this character can be recognized by the general condition of the nasal passages. I cannot believe that there exists a preceding purulent catarrh.

Bilateral empyema of the sinuses may be present for a short time after a severe and acute coryza, but its duration will be short unless the vault is filled with adenoid tissue. Some special infection may give to an acute coryza a purulent discharge for a time, but this is not chronic purulent rhinitis. There are also acute exacerbations in atrophic rhinitis when the discharge is temporarily purulent. All acute coryzas, in which variety we are most apt to see a secretion of pus, are also of the type most amenable to treatment, and the purulent discharge usually ceases when all obstructions to nasal respiration are removed and the passages cleansed. A chronic purulent rhinitis preceding and finally terminating in atrophic disease does not, I believe, occur frequently.

Let us here speak of the frequency of the various pathologic conditions which are found in children suffering from nasal catarrh, and of their relative importance. Dr. Chappell[1] of this city some time since gave a report of the various pathologic condition in 2000 cases of nasal disease in children, and they were tabulated as follows:

Adenoid enlargement, 60; enlarged faucial tonsils, 270; deviated nasal septa, 330; spurs on the septum, 150; cases of hypertrophy of the inferior turbinated, 260; cases of hypertrophy of the middle turbinated, 161; total, 1231.

We do not doubt that Dr. Chappell saw some degree of deviation of the septum in this large percentage of his cases, nor that there *appeared* to be hypertrophy of the turbinated structures in more than 420 cases (more than one-fifth of the total), but our observation does not agree at all with his in the infrequency of the existence of enlarged pharyngeal tonsil. We have not taken the pains to tabulate 2000 cases of nasal catarrh in children, but in 300 of which we have some memoranda some degree of enlargement of the third tonsil was found in ninety per cent. Dr. Chappell finds adenoid enlargement in only one-quarter of the cases of enlarged faucial tonsils. We have found enlargement of the third tonsil more commonly than that of the faucial tonsils in children. There may be some error in this argument because of the different views of observers as to what may be properly called enlargement of tonsillar tissue, but we have not been in the habit of considering enlargement of the faucial tonsils of any moment unless they were hypertrophied enough to produce some impediment to nasal respiration. Nor have we thought that it was worth while to recognize deviated septa unless they were sufficient to somewhat block the nostril or to produce irritation. There are many cases of slightly deviated septa occurring from the fifth to the tenth year which seem

[1] Bosworth, "Diseases of the Nose and Throat," vol. 1, p. 155.

[1] American Laryngological Society, February, 1889.

to me of little importance. In many of these there is congestion and temporary thickening of the nasal tissues, due not to the deviation of the septum, but to the presence of a chronic mucopurulent discharge caused by post-nasal blocking. Deviation of the septum in children is not a condition often competent to produce a chronic nasal catarrh. And the same may be said in regard to chronic hypertrophic changes in the nasal passages. Chronic hypertrophic rhinitis is a comparatively rare affection in children, and we mean by that that in very few instances of children under twelve years of age is there well-organized connective-tissue hypertrophy of the turbinated structures. It is true that when we examine the anterior portion of the nasal passages we see boggy swellings at the anterior ends of the turbinates in nostrils blocked with secretion, and if an observer is in the habit of diagnosing these as cases of "hypertrophic rhinitis" one need not go far to find them, but these apparent hypertrophies are, I believe, temporary if not neglected, and are caused by interference with the nasal circulation and impeded nasal respiration, and disappear so soon as the real cause of nasal obstruction is removed. We cannot reasonably expect to find firm, healthy, turbinated structures in a nostril impervious to the passage of air, and constantly covered with nasal discharge. The great harm in considering these cases of "hypertrophic rhinitis" is that they invite the application of the galvanocautery or mineral acid, or the use of the snare or scissors.

In regard to spurs on the sputum, we have rarely found them large enough in children under fourteen years of age to require operation. They, too, are made more prominent by the general nasal congestion incident very often to enlargement of post-nasal adenoids. I should have said that the cases of deviated septum in children under ten years of age which require attention are cases of marked traumatism. It is a question just how early enlargement of the third tonsil and mouth-breathing commence to elevate the arch of the hard palate, and so cause the nasal septum to become bent upon itself. We do not see this frequently before the tenth or twelfth year.

I have not thought it wise to take up your time in a consideration of the disease which we know in adults as nasopharyngeal catarrh, because in children this has not developed except as a symptom of enlargement of the pharyngeal tonsil, which is far more frequently the cause of nasal catarrhs in children than are deformities of the nasal septum. The reverse is true in adults. Since enlargement of lymphoid tissue, both in the upper and middle pharynx, is so common in children, it seems reasonable to believe that nasopharyngeal catarrh, with its accompanying enlargement of the pharyngeal tonsil, is a condition in children primary to anterior nasal lesions.

Disease of the accessory sinuses in children under ten years of age, if not actually rare, is not often recognized. I believe, however, that acute inflammation of the maxillary sinuses occurs more frequently than we have supposed, and that it nearly always resolves quickly without leaving a chronic condition, unless there is present persistent occlusion from some other lesion. In children it is more commonly bilateral, contrary to the rule in adults. It would be of interest to use the transillumination-test in cases of purulent discharge in children. We should naturally do this if the discharge was from one nostril. Grünwald [1] made autopsies in thirty cases of children where death was caused by diphtheria, scarlet fever, or measles, and found pus in the nasal chambers or sinuses or both in all, and chiefly in the antrum. This would not, we believe, be any strong proof that *chronic* suppuration of the sinuses was common in children, but we should think it likely that there was in such secretions germs competent to excite an atrophic rhinitis or an ozena. Grünwald further says that there is no data as to how these cases result. It would be of great interest to know whether such acute purulent inflammations of the nose and accessory sinuses are the beginning of a chronic atrophic rhinitis.

(To be continued.)

CLINICAL MEMORANDA.

REPORT OF A CASE OF SALPINGO-OOPHORECTOMY IN ACUTE PUERPERAL SEPSIS.[2]

BY HIRAM N. VINEBERG, M.D.,
OF NEW YORK.

MRS. S., aged twenty-three years, married eleven months, was delivered of a female child by Dr. ——, on October 22, 1898. The labor was normal except that the head "stuck" at the perineum. The doctor passed a couple of fingers into the rectum, hooking the chin and thus delivered the head. There was a moderate tear of the perineum which was sutured. The patient seemed to be getting on satisfactorily until the third day, when she had a temperature (oral) of 103° F. and a pulse of 106. On the fourth day her temperature was 102° F., on the fifth day, 101°, on the 6th, 99.8° F., pulse 96. On the eighth day she had a severe chill, her temperature went up to 104° F., her pulse to 120.

I saw her at 9 P.M. on that day (October 30th). Her temperature then was 102.4° F., and her pulse 108, full and strong. The tongue was coated with a white fur.

[1] Grünwald, *Die Lehre von den Naseneiterungen*, Munich, p. 3, 1896.

[2] Read before the Section on Obstetrics of the New York Academy of Medicine, December 22, 1898.

The abdomen was not distended nor sensitive to pressure. The tear in the perineum seemed healthy and was granulating. The cervix was fairly patulous, but there was no discharge, and consequently no fetid lochia. The doctor in attendance had given an intra-uterine douche at 3 P.M., but nothing had been washed away. The uterus was large, rather soft, reaching nearly to the umbilicus, and lying toward the right side of the abdomen. It was not especially sensitive to pressure.

At midnight, under full narcosis, I curetted the uterus very thoroughly, removing several small fragments from the posterior uterine wall. I could pass my finger readily into the uterus and was enabled to explore the whole of its interior up to the fundus by depressing the fundus with the other hand over the abdomen. I could feel several ridge-like elevations on the posterior wall which I ultimately succeeded in removing with the sharp curette. The uterus was then thoroughly irrigated with lysol, one per cent. While the patient was under the narcosis I made a careful bimanual examination and could not detect any exudate nor thickening of the adnexa.

October 31st (noon, twelve hours after the curettage), temperature 103⅘° F., pulse 104; 7 P.M., temperature 105⅘° F., pulse 128. Intra-uterine irrigations used every two hours by means of two large gum-elastic catheters which were left in the uterus, so that the nurse could carry out the treatment with very little disturbance to the patient. From this on the pulse and temperature rapidly fell, so that on November 1st, at 8 A.M., twelve hours later, the temperature was 102⅘° F., the pulse 110, the patient was perspiring freely, and the coating on the tongue was growing less.

November 2d, temperature ranged from 101.4° to 103.4° F.; pulse from 102 to 114.

November 3d, temperature 100.3° to 102° F.; pulse 102 to 110. Irrigations brought away considerable mucopurulent discharge from the uterus. The range of temperature and pulse remained about the same for the next three days.

November 7th (15th day of puerperium), temperature 98.3° to 99.2° F.; pulse 96 to 102. During this period the patient was given freely of stimulants, kumyss and beef-juice. Ergot was regularly administered and the bowels were moved two or three times daily. We were congratulating ourselves upon having gained the mastery over the sepsis and that our patient was out of danger, but on the following morning (November 8th, sixteenth day of the puerperium), without any appreciable reason the temperature and pulse began to go up again and the patient complained of severe pain in the right iliac region.

Now, for the first time, one could feel an elongated mass, about the thickness of the thumb, beneath the very thin abdominal wall. It seemed fixed and was exquisitely tender. The temperature had risen to 104° F. and the pulse to 140 at 4 P.M.

The time had now arrived in my opinion when a more radical course would have to be pursued as it was evident that the infection had passed beyond the uterine cavity and was traveling rapidly along the right appendage. Steps were taken to perform a laparotomy and one hour later, at 5 P.M., I opened the abdomen. The exterior of the uterus appeared normal. To the right of the uterus lay an ugly looking mass made up of the ovary and tube matted together. The ovary was double the normal size, of a dark-reddish color, edematous, and covered with almost black, angry-looking exudates. The tube presented the same dark appearance, was about the thickness of one's thumb, with the fimbriæ very much thickened and looking like a mass of unhealthy granulations. The infundibulo-pelvic ligament was very much infiltrated and reddish in color. I tied off the ovarian artery as close to the pelvic wall as possible, then rapidly excised the ovary and tube with scissors, following the excision right into the horn of the uterus.

The resulting wound was quickly closed with a looped continuous catgut suture. An opening was made through Douglas' cul-de-sac into the vagina, through which a strip of iodoform gauze was carried. Prior to this, some loose adhesions between the lower part of the uterus and rectum and posterior pelvic wall were broken up with the fingers. The vaginal gauze was loosely packed in the space occupied by these adhesions. Another strip of iodoform gauze was laid over the line of suture in the broad ligament, and the end made to pass out at about the lower two-thirds of the abdominal incision. The abdominal wound above and below this point was closed in the usual way, that is, each layer separately, catgut for the two inner layers and silkworm gut for the skin.

The patient withstood the operation fairly well, though her respiration was very rapid through the whole anesthesia. Her temperature fell to 101° F. thirty hours after the operation, but the pulse remained high, 140. It was, however, of a good quality and caused me no alarm. The patient voluntarily passed gas eighteen hours after the operation and at no time was there any evidence of peritoneal irritation. She had a natural movement of the bowels at the end of twenty-two hours.

On the 3d day after the operation the abdominal and vaginal gauze was removed and the wounds gently irrigated with saline solution.

On November 12th, four days after operation, temperature 99.4° F.; pulse 110. From this time on the patient made a gradual and steady recovery. There was considerable purulent discharge from the vaginal and abdominal openings, but the sutured portions of the abdominal incision healed by primary union.

At the present time (December 19th) both wounds are almost closed, the uterus is fairly well involuted, there is no tenderness nor exudate to be detected anywhere, and the patient has been out of bed during the past four days. She is still considerably emaciated, but her appetite and digestion are good. She is free from pain and it will not be long before she will have regained her usual weight.

This case offers many points of interest and is in line with my previous work in puerperal sepsis. It emphasizes the position I have taken, that puerperal sepsis is a surgical disease and should be treated on surgical principles. The first thing to do in a given case is to ascertain the

probable point of infection, and having come to a conclusion on this matter, the next thing to do is to attack it as one would an infected wound elsewhere. If in spite of our efforts the infection is spreading and gaining ground, then one must institute more radical measures according to the indications in each individual case. The present case forcibly illustrates the treacherous nature of puerperal sepsis. On the sixth and seventh days of the puerperium the danger-point was supposed to have been passed, the temperature and pulse being virtually normal. On the eighth day the temperature jnmped up to 104° F., and the pulse to 120. The same thing occurred on the sixteenth day, the pulse and temperature having again been normal during a period of about forty-eight hours, when, all of a sudden, the condition of the patient became alarming.

What would have happened if at this stage the abdomen had not been opened and the highly affected tube and ovary had not been removed? Various answers from an academic standpoint might be given. It might be stated that the infection for some unknown reason, would not have traveled any further, but would have been arrested at the pelvic attachment of the infundibulopelvic ligament; that adhesions would have formed about the diseased tube and ovary and that the woman would have recovered simply with a damaged tube and ovary. But a more trustworthy answer is to be found in an almost identical case under observation at the Basel clinic,[1] in which the alternative above referred to was followed. On the twenty-second day of the puerperium, after several periods of apparent quiescence, the infection evidently extended from the uterus to the right broad ligament. Instead of opening the abdomen the uterus was subjected to permanent irrigations and the patient to cold packs and cold douches, etc., with the result that death occurred six days later, *i. e.*, on the twenty-eighth day of the puerperium. The autopsy revealed purulent peritonitis, and suppurative thrombosis of the pelvic veins, secondary to suppuration of the thrombi at the placental site. On the fourteenth day of the puerperium the patient was subjected to a curettage and the uterine discharge was examined bacteriologically. No streptococci were found. On the twenty-second day the uterine discharge was again examined and this time streptococci were detected.

The case reported above bears out some points I tried to bring out in my paper on "Hysterectomy for Acute Puerperal Septic Metritis."[2]

1. That a bacteriological examination of the uterine discharge is not always trustworthy even in expert hands, and that when we place more reliance upon it than upon our clinical observation our patients' welfare is likely to suffer.

2. That a so-called sapremia may imperceptibly pass into a virulent, and rapidly fatal sepsis, and that a diagnosis of sapremia may often lull us into a false sense of security and permit the opportune moment to slip by when we might save our patient by surgical interference.

[1] Albert de Pourtales, *Archiv f. Gynäkologie*, Bd. lvii, Heft. 1.
[2] *New York Medical Journal*, April 2, 1898.

3. The mistaken conception that acute puerperal septicemia kills before the tenth day, as was asserted by one of my critics when I presented a report of my second case of abdominal hysterectomy for acute puerperal sepsis at a meeting of this section on February 24, 1898. It was stated in the discussion that the patients either die before the sixth or ninth day, or they get well without any radical procedure. In the six fatal cases reported by Pourtales[1] one patient died on the twenty-eighth day (the one above quoted), one on the ninth day, one on the seventh day, one on the twenty-fourth day, and one after the lapse of three months.

REPORT OF THREE CASES OF POST-TYPHOID SURGICAL LESIONS.

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CASE I.—J. W. C., aged thirty-six years, a member of Battery A, First Ohio Volunteer Artillery. In 1891 he had a severe attack of typhoid fever lasting ten weeks. After his recovery his health remained excellent up to the time of his enlistment at the breaking out of the late war. He was encamped at Camp Thomas, at Chickamauga Park, until August 5, 1898. During this time he was not on the sick-list although he was in poor health from about August 1st. From Camp Thomas he went with his regiment to Camp Bushnell at Columbus, Ohio, arriving there on August 6th, and the next day, August 7th, reported at the hospital suffering from severe headache and fever. The following day his temperature rose to 103° F. and he remained on the sick-list until he reached home on August 9th, when he was obliged to go to bed and was under treatment about three weeks suffering from what was diagnosed by his physician as typhomalarial fever. His convalescence was rapid and in three weeks from the time he went to bed he was up and dressed and a few days later began to attend to his business as a building contractor. No symptoms developed until October 25th, when he noticed a dull pain in his left forearm. This continued slowly to increase in severity, and as swelling began to make its appearance he reported to me on November 9th for treatment for what he considered rheumatism. Believing that the case was one of periostitis following typhoid I put the part at rest and applied hot fomentations. The swelling increased gradually until November 16th, the pain remaining severe. On this date, under cocain, I made an incision into the forearm down to the radius, expecting to evacuate pus. I did not succeed in getting any, and feeling positive that it must be present, either subperiosteally or within the bone, I sent him to the hospital, and the next morning upon operating found the pus located about three-quarters of an inch from my point of entrance and evidently of subperiosteal origin. The bone was found denuded of periosteum and bathed in pus. It was considerably roughened, yet no evidence of osteomyelitis was present. The abscess was evacuated, the roughened bone chiseled and curetted, and the abscess-cavity cleaned of necrotic shreds of tissue,

[1] *Loc. cit.*

packed with gauze, and closed with a few sutures. The subsequent history showed nothing of interest, repair taking place promptly without further suppuration. A microscopic and bacteriologic examination of the pus made in the Pathological Laboratory of the Western Reserve Medical College, by Dr. W. T. Howard, showed it to contain an almost pure culture of the typhoid bacillus.

CASE II.—W. C., aged thirty-eight years, private in B Troop, First Ohio Volunteer Cavalry, was taken sick with typhoid and admitted to the Regimental Hospital, at Lakeland, Fla., August 12, 1898. He had never previously had an attack of typhoid fever. The fever pursued a moderately severe course and on September 15th he was sent home to Ohio on sick furlough. On his arrival at home he was practically confined to his bed until October 12th. On the 13th of October he was suddenly attacked by a severe chill and great prostration. He was immediately sent to the hospital and was confined to his bed for several weeks with what was diagnosed by his attending physicians as a relapse of the typhoid. On September 29th, fourteen days after his discharge from the hospital at Lakeland he noticed a swelling in the left testicle. The pain was moderately severe, increasing as the swelling increased, and at the time of his admission to the hospital in Cleveland he suffered considerable pain, which, however, was relieved by rest, elevation, and hot applications. The relapse was severe and his condition most critical. However, convalescence eventually ensued, but the orchitis remained. No history of gonorrheal or syphilitic infection could be elicited and the orchitis was diagnosed to be a sequel of typhoid fever.

Strapping was resorted to in the hopes of reducing the swelling but was abandoned at the end of a week, no improvement having taken place. After this symptoms of softening and breaking down of the organ became manifest and it was decided to remove the testicle. This was done November 16, 1898, the only item of interest connected with the operation being that the pulse-rate during the entire operation ranged from 160 to 180, ether being the anesthetic given. The testicle was found entirely disorganized and a considerable amount of pus was also present. The specimen was sent to the Pathological Laboratory of the Western Reserve Medical College and examined by Dr. Howard, who reported that it contained a practically pure culture of the typhoid bacillus.

CASE III.—T. F., aged twenty-eight years, a laborer. Patient first entered the Erie County Hospital March 22, 1897, suffering from typhoid fever. The history regarding the onset of the bone-lesion is not very accurate except that the leg had been painful and swollen for some time. The first operation for diseased bone was performed on the right tibia June 1, 1897. On July 7th a second operation was performed, and on July 28th when he entered the Charity Hospital he had two fistulous openings over the anterior aspect of the right tibia at about the junction of the lower and middle third. He was operated upon August 2d and a detached fragment one and one-half inches long of necrosed bone removed. The surrounding bone was thoroughly chiseled and curetted to remove diseased portions, but the marrow of the bone was not found to be in any way involved, the disease being apparently an ostitis following periostitis. No bacteriologic examination was made. The patient did not give a history of any injury which might have induced periostitis.

These three cases are illustrative of the fact that post-typhoid lesions occur not infrequently in adults, that the length of time intervening between the onset of the original disease and the full development of the subsequent surgical lesion is often very considerable, and that it is therefore incumbent upon the medical adviser to caution his patient about these possibilities and against unnecessary or undue exposure to injury. While in none of the three cases here reported was there a history of an injury, yet it is not improbable that a slight or neglected injury might have been the determining factor in the local activity of the typhoid bacillus and the development of suppuration.

The ages of these patients were respectively thirty-six years, thirty-eight years, and twenty-eight years, and the periods of development of pronounced symptoms, dating from the beginning of typhoid fever were 79 days, 48 days, and approximately 57 days. Of course these figures are inexact but they are sufficiently accurate to show at what a late date the typhoid bacillus is still present and sufficiently active to determine, upon very slight provocation, a suppurative lesion.

MEDICAL PROGRESS.

Differential Diagnosis between Syphilis in the Throat and Diphtheria.—SOMERS (*Phila. Med. Jour.*, January 28, 1899) says that in syphilis of the pharynx simulating diphtheria the temperature is not as high, the patches on the pharynx and tonsil are not as elevated, the adjacent tissues are not so violently inflamed and there is usually some concomitant symptom such as the dermal eruption. In a number of cases of diphtheria there is a somewhat symmetric arrangement of the membrane; but this is more marked in syphilis, and the "Dutch-garden" symmetry of syphilitic ulcers is rarely simulated. The crucial test is the presence of the diphtheria bacillus, but the history of the case, and the amount of acute constitutional symptoms together with the course of the disease, must be taken into account.

Poisoning by Camphor.—BERKHOLZ (*Petersburger Med. Wochenschr.*, No. 51, 1898) describes the case of a young woman who took about 15 grams (one-half ounce) of camphor suspended in water, probably in order to produce an abortion. There was no immediate effect, but two hours later a violent headache developed, with vomiting, convulsions and later coma. The pulse was full and strong, and respiration rapid. Excitement increased until the patient became unconscious. The stomach was washed out several times and chloral and bromid were administered. After several days' illness she entirely recovered. The fatal dose of camphor is 2.5 to 7 grams (half a dram to a dram and a half) and the writer attributed the recovery of his patient to the fact that she had eaten a hearty dinner composed largely of hydrocarbons, a

short time after taking the poison. By this means there was formed in the intestine glyco-camphoric acid which is not poisonous. He recommends in an overdose of camphor, therefore, that the patient be given large doses of sugar as an antidote.

The Secret of Longevity.—A writer in the *Lancet*, January 21, 1899, says that no one has come nearer than George Humphrey to an accurate conception of the secret of longevity. The total number of aged persons whose life-history was examined by him was close on 1000, 74 of whom were centenarians. The conclusions arrived at by him were briefly these: (1) That the primary factor in a long life consists in an inherited durability; the vital machinery is wound up to go for a given period and but for accidents or in spite of them it will go till the time appointed. (2) That an important part of the primary inheritance is good digestive and nutritive power. (3) That temperance is necessary in the use of the nutritive functions both in eating and in drinking and in regard to all kinds of food and drink. (4) That an energetic temperament and active habits conduce to longevity.

Inoculation against the Plague.—A correspondent of the *Lancet* recently wrote regarding the plague in a town called Gaday as follows: "Inoculation seems to be proceeding merrily enough, and the inoculating officer who is one of the English special plague medical officers is much occupied, 500, 600 or even 700 people being often inoculated in one day. To see the crowds waiting and struggling to pass the barrier is a strange sight. Old men and women, young children, and mothers with babes in their arms form a daily crowd numbered by hundreds who wait for hours to get their chance of the day's inoculation and many go away disappointed after the doctor and staff have been fairly tired out. The example of Hubli has apparently given the people confidence and they are now eager to bring their 2 annas to go through the operation. It is unfortunate, however, to find that many of the inoculated get plague—even those who have been inoculated twice—and several of them have died. Many cases of suppuration have also followed inoculation notwithstanding that great care is exercised in all the details of the operation. That it affords protection has now been proved, and it has been observed that plague patients who have been previously inoculated are not so subject to delirium and mental obfuscation, nor do the buboes develop so readily or so frequently go on to softening. The fever generally is not so severe and the type of the disease is less virulent. In uninoculated cases the disease continues with unabated intensity."

Typhoid Fever in Infancy.—MORSE and THAYER (*Boston Med. and Surg. Jour.*, January 12, 1899) wished to learn whether typhoid fever in infancy is more common than is ordinarily supposed. The mildness of the symptoms, and their resemblance to those of the ordinary gastro-intestinal disturbances of infancy might account for its not being recognized. They applied Widal's test in the case of 50 babies under two years of age, with the following clinical diagnosis: simple diarrhea, 2 cases; fermental diarrhea, 45 cases; ileo-colitis, 3 cases. In only one case was a positive serum reaction obtained, and a test of the blood of the mother of this patient gave a positive serum reaction in fifteen minutes. She had a slow fever ten years before, but had not been ill since. The child had been fed from the fourth month on raw milk and water, and was taken sick when seven months old with greenish diarrhea and vomiting. The treatment began four days after the beginning of the attack, and in nine days the child was entirely well. Under these circumstances it seemed probable that this case was not one of typhoid fever. The authors therefore endorsed the commonly accepted view that typhoid fever is an unusual disease in infancy.

THERAPEUTIC NOTES.

Six Thousand Fractures Treated by Extension.—LOEW (*Bull. gen. de Ther.*, December 23, 1898) says that Bardenhauer was the first surgeon who was able to successfully surmount the difficulties of extension in the treatment of fractures. During the last ten years more than six thousand cases of fracture have been treated in the city hospital of Cologne on the principles he laid down. The theory of the method is to obtain as extensive a surface as possible for the attachment of the adhesive plaster. For example, in a fracture of the tibia, a broad strip of adhesive plaster is placed along the outer side of the leg from a hand's breadth below the knee to the ankle, and continued under the sole of the foot in a loop. It is then carried up the inner side of the leg, as high as on the other side. These side straps are held still more firmly in position by circular ones. A short piece of board is placed in the loop below the sole, and to a cord around this a weight of four to eight pounds is hung to give the required extension. The foot of the bed is elevated eight or twelve inches to keep the patient from slipping. In certain cases strips of plaster and weights are also applied to counteract rotation. At the end of ten days the bandages are changed throughout. The advantages of this method of treatment are that the site of fracture is exposed to view, and contusions can be watched and the dressing changed if necessary; that the fragments of the broken bone are exactly coapted, and false joints are avoided. The results of this method of treatment are marvelous. A short treatment and perfect results are the rule. A false joint is never seen. In ten days the union is often so far advanced that it is possible to remove all apparatus and to place the limb in a simple trough.

A Good Prescription in Case of Tapeworm.—CHAMBERLIN (*Bull. gen. de Therap.*, December 23, 1898) begins the treatment for tapeworm by a dose of castor oil or sulphate of magnesia, and as soon as this remedy has acted upon the bowels, he gives each hour, a teaspoonful of the following mixture:

℞	Spt. chloroformi		ʒij
	Ess. terebinth. rect.	aa	ʒj
	Ext. filicis ether		
	Glycerini		ʒiv. M.

If the patient is a child a proportionately smaller dose is to be given. Thus for a child of two years the correct prescription would be

℞ Spt. chloroformi
Ess. terebinth. rect. } aa. . . 3 ss
Ext. filicis malis
Glycerini . . . . . 3 iv.
M. Sig. One teaspoonful every hour.

Applications of Eucain in the Esophagus and in the Rectum.—BAYER (*Centralbl. f. Inner. Med.*, January 7, 1899) anesthetizes the pharynx and upper portion of the esophagus with a 3-per-cent. solution of eucain before passing the esophageal tube. In two minutes the parts are absolutely insensible. In cases of carcinoma in which the act of swallowing even of fluids is well nigh impossible an application of eucain will enable the patient to swallow even solid food without difficulty. The eucain in such a case is applied by means of a syringe, and the patient easily learns to make the application. There is no danger from poisoning. Applied in the same strength on cotton eucain is the best agent for preparing the rectum for dilatation or the introduction of instruments, removing absolutely all pain. For obstinate tenesmus in connection with carcinoma the injection of 10 to 30 drops of the same solution has proved most satisfactory. There follows a feeling of comfort in the lowest section of the bowel which lasts sometimes for hours.

Applications of Guaiacol for Serous Pleurisy.—PROZOROVSKY (*La Presse Med.*, January 4, 1899) treated eleven patients suffering from serous pleurisy by painting the skin overlying the lesion twice daily with a mixture of guaiacol and tincture of iodin, 1 part to 4. The skin was then covered with an impermeable substance, and the patient was given either codein or Dover's powder. In every case the absorption of the exudate was more rapid than could have been expected from any other method of treatment. There was no constitutional disturbance and no cutaneous irritation unless it was found necessary to make more than six or seven applications. Five or six were usually sufficient to cause the complete disappearance of the fluid. There was a fall in temperature after each application, followed by a rise, so that the crest of the thermic curve came out two hours later. The author believes that guaiacol acts in two ways: by means of the cutaneous nerves it affects the thermic and vasomotor centers and so promotes absorption. By combining with morbid products circulating in the blood it keeps them from acting injuriously upon the pleura.

Efficacy of Guaiacol in Acute Epididymitis.—PERRY (*Medical Record*, January 7, 1899) reports twenty cases of acute epididymitis treated with guaiacol with success. He paints the pure guaiacol over the cord in the inguinal canal, and a mixture of one part of guaiacol and two parts of glycerin over the cord and epididymis in the scrotum. Pain is relieved in a few minutes, but returns in six or eight hours with less severity. On the first day, therefore, two or three applications may be necessary; afterward for four or five days one or two only. Most cases can be cured in four or six days, and some, if seen early, may be aborted. Most of the patients treated by him were gonorrheal. In some instances the pain which had existed in such a severe form for several days as to prevent sleep was so quickly removed that in an hour the patient was sleeping soundly. In a few cases the treatment was followed by that of oleate of mercury to facilitate the absorption of the exudate.

Care of an Infant's Teeth.—CARRIERE (*Rev. de Therap. Med.*, January 1, 1899) insists on the importance of looking after the teeth from the time a child is born. The mouth should be wiped out with cotton wet with Vichy-water after each nursing. The gums should be rubbed with the finger wet in the following solution in order to prevent pruritus and to relieve the pain of dentition:

℞ Cocain . . . . . gr. ij
Saccharin . . . . . gr. j
Glycerin . . . . . oz. j
Tinct. vanillæ . . . gtt. xxx.

If the child is much irritated by the eruption of the teeth 5 grains of bromid may be given in the morning, and at night an injection containing 4 grains of chloral and 5 drops each of tincture of valerian and tincture of musk.

The first teeth are very apt to decay about the third year. To prevent this the mouth should be cleaned in the morning with a little soap in order to counteract the acids of the food and of fermentation. At this age the teeth should be regularly brushed with a soft brush dipped in an antiseptic solution. People often think it is useless to have the milk teeth filled; but this is a mistake for the early loss of a first tooth produces in its place a scar tissue so that the second tooth has more difficulty in breaking through. This is the commonest cause of the deviation of the second teeth.

For Sycosis Barbæ.—Treatment by galvanocautery is advised for severe cases by BLOCBAUM. The needle is inserted from $\frac{1}{12}$ to $\frac{1}{6}$ of an inch into the pus-containing follicles, and the current then turned on. The needle is pulled out while red hot. About 60 follicles are thus treated at a sitting, ice-compresses then being applied for two hours, and the parts finally powdered with the following:

℞ Zinci oxidi
Ac. borici } aa . . . . . parts i
Talci . . . . . parts ii.
M. Sig. External use.

In the morning the parts are washed with soap and water, dried with gauze, and repowdered. Treatment is given daily until all the affected follicles cicatrize. When the scabs come off, daily shaving is advised, also friction to detach loose hairs and empty the gland tubules.

The pain of this method only slightly exceeds that of epilation, and if necessary local anesthesia can be resorted to.

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No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
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WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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SATURDAY, MARCH 25, 1899.

THE WHEAT PROBLEM ONCE MORE.

WHEN Sir William Crookes, the president of the British Association for the Advancement of Science, saw fit in his presidential address, before that distinguished scientific body last summer, to refer to the possibility of there not being enough wheat to go around for the next generation, his declaration naturally attracted a great deal of attention. American commentators on the subject generally scoffed at the idea of a paucity of wheat so soon in the world's history. More than one of our medical contemporaries took pains to demonstrate to their readers that the idea was preposterous. Some of the most amusingly exaggerated claims were made and extensively copied as to the wheat-bearing capacity of our great West. Among others, for instance, that the State of Idaho alone could supply, if there was a demand for it at good prices, 400,000,000 bushels of wheat.

The statistician of the United States Department of Agriculture reviews the discussion in the current number of the *North American Review*, and gives what he considers conservative figures in the matter. All the acreage available for wheat in the United States, including land that may under the stimulus of better prices be reclaimed from aridity by irrigation, will not suffice in 1931 to supply the demands of even our own estimated population at that time, 130,000,000. The United States are at present the greatest exporters of wheat in the world, but in thirty-two years, *i. e.*, in the next generation there will be a deficiency of 50,000,000 of acres of the land necessary to supply our own population with wheat.

It may not be amiss then to bear in mind Sir William Crookes' prophecy that we shall have to learn in the very near future to consume more leguminous products in order to obtain our supply of nitrogenous material, and to unlearn certain present-day wasteful methods in the use and preparation of wheat-food products as well as certain unscientific methods in the cultivation of the cereal.

NEO-MALTHUSIANISM AND THE DOCTORS.

UNDER the above title Doctor Minime discusses in the *Journal de médicine de Paris* the continued diminution in the birth-rate of France. In 1897 there were 859,107 births, a decrease of 6479 from the preceding year, when the total was also disquieting to the statisticians. This total is the smallest ever recorded in that country since the beginning of the century, except in 1871, and during the epidemic of the grip. Fourier says the decrease is due to syphilis, Lancereaux to alcoholism, Roussel to neglect of young infants, but the writer of the article alluded to says, it is because the French are "past masters in the art of *coitus frustratus*, or *moucher la chandelle*."

The new Malthusian religion long adopted by the Faubourg Saint-Germain, is gradually numbering its converts among the bourgeoises, the Faubourg Saint-Antoine and even the rural districts. "It would ill become the physicians," says Doctor Minime, "to make an outcry against restrictive practices. A Malthusian has had the patience to conduct an inquest upon the Parisian medical body; do you know how many children he finds per family? *One and a quarter!*" In defense of this position he goes on to say:

I may cite myself as an example. I am in fact only a demi-Malthusian for I have three children. It goes without saying that I would have had twenty if I had not followed restrictive measures which the church condemns. For ten years I occupied an

apartment which cost four thousand francs a year. Now that the children are large and can no longer sleep in the drawers of a commode, I have to give to each of them a chamber and the rent of the apartment has grown to eight thousand francs.

But that is not all. Under the fallacious pretext that I have children the government doubled my taxes so that they are now 1600 francs a year. It is necessary to add to these figures 5600 francs for the care and the education of the children. Is that not a condition which would justify the most extreme Malthusianism? Of course one loves his country and is ready to die for her, but not to die—of hunger.

Oh, legislators, my friends; you especially, numerous physicians and surgeons, who sit in our parliaments(you are more than one hundred) study this question and do not increase our taxes in a direct ratio to the number of our children. The question is simple enough. He who has no children should pay more than he who has one. Let the unmarried man who has his sexual pleasure at the expense of the community, who takes our women and covers France with bastards at the expense of society bear the heavier burden. If he is to be tolerated, let him at least pay the double tax.

MALARIA AND TYPHOID.

IN a recent issue a medical correspondent in Philadelphia attempted to blunt the edge of certain remarks of ours with regard to the awful condition of that city, anent, the typhoid epidemic there, by quoting the statistics for malaria and typhoid in New York and Brooklyn during the six years preceding 1890. Our medical correspondent, although manipulating statistics for the benefit of Philadelphia's showing disclaimed any idea of defending Philadelphia, and yet there seemed to be no other motive. In publishing his letter we absolutely refused to be diverted from the important point at issue, *viz.:* the mortality of typhoid *now* in Philadelphia. And without disclosing our correspondent's name, as he did not seem to wish it, we stated forcibly our opinion of medical defenders of Philadelphia in the matter of typhoid. Unfortunately for our correspondent his haste to have the defence of his town, or at least something that would divert attention from the present alarming condition there, published, led him to send his letter to a Philadelphia medical journal. Even that editor found his statistics too ancient and so they were brought down to something more than three years from date.

Our Philadelphia contemporary now thinks that the objection raised deserves a serious answer. That answer was given when we absolutely refused to entertain the idea of wiping out all malaria mortality in New York and Brooklyn in order to add it to the typhoid column, so that Philadelphia's typhoid statistics might not seem so *very* bad. This manipulation by our correspondent was an unwarranted trifling with statistics and deserved the severest condemnation. Statistics cease to have any meaning if altered in this wholesale fashion on a mere assumption.

Either the malaria reported by the New York and Brooklyn physicians was malaria or the profession of those cities must consider themselves accused by our correspondent of inability on a wholesale scale to diagnose malaria or else wilfully to have entered into a conspiracy (perhaps for the sole purpose of injuring Philadelphia) to criminally suppress facts.

That the malaria mortality for the two cities should be much greater than that of Philadelphia is not surprising. New York undoubtedly has endemic malaria in the low-lying lands along the Harlem and near both rivers, the East and North. New York always contains a large contingent of New Jersey's population and has perennially a numerous resident Southern colony. As the great entrepot of the country it always contains a large number of people from tropical countries besides a small army of sailors. Brooklyn has the questionable advantage of being situated on Long Island. Need we say more to obtain for it the privilege of a respectable mortality from malaria?

Now as to the statistics of the next six years from 1890 to 1896: The New York mortality from malaria drops from 24.62 to 7.87, but the mortality from typhoid does not ascend proportionately but drops from 24.27 to 19.72. In Brooklyn there has been a still greater fall in the mortality from typhoid despite a very large reduction in the malarial mortality. The mortality from malaria remains high but that is due to endemic malaria in a number of low lying districts. We doubt if any more mistakes of diagnosis as between malaria and typhoid are made in Brooklyn than even in Philadelphia.

All these considerations are elementary. They are obvious to any one who knows anything of the situation. It is to be expected that medical men and especially medical editors shall know something of such matters before writing about them and that

they shall not ignore them in order to malign, for obvious personal motives, a large body of professional brethren by the assumption that many of them frequently and persistently mistake typhoid fever for malaria.

But this is only "by the way." We are sincerely interested in seeing something done to reduce the awful mortality from typhoid fever in Philadelphia. More than 400 deaths in less than twelve weeks! Here is what should occupy the attention of physicians and medical journals in Philadelphia, not considerations and discussions calculated to divert the attention from these gruesome figures. Our first editorial on the subject was not meant to smirch Philadelphia's fair name, the Lord knows that is impossible in the matter of typhoid, but to arouse, if possible, lethargic burghers to a sense of civic duty. We have some evidence that it hurt. That was its intent. Meantime we await with impatience the opportunity to announce that something, *any thing* is being done to remedy the present dreadful state of affairs.

THE BACTERIOLOGY OF DRINKING-WATER.

WE publish this week an abstract of Dr. Edward R. Dunham's paper on this subject read before the Harvard Medical Society of this city. The subject, it is needless to say, is an extremely important one, and, unfortunately, one with which, despite long years of most arduous and faithful work, bacteriologists have been able to accomplish very little that is of practical value. We have always seemed on the point of having some sure and definite bacteriologic data for judging as to the potability of a given water when new observations have shown their inconclusiveness. At present bacteriology practically assists very little our efforts to decide whether ordinary water is safe for drinking purposes or not. A good many bacteriologic examinations of Philadelphia water have been made in these last few years and yet we believe no definite conclusion as to the contamination of the water has been reached. That typhoid bacilli have been in the water-supply of that city most of the time during these years, a simple reference to the health statistics of the city will show. The fault, however, lies not with the observers but with the present inadequate bacteriologic methods.

Most of the data considered of value now in judging of drinking-water comes from chemistry. As was remarked in the discussion of Dr. Dunham's paper, a slight increase in the nitrites present in Croton water sends a spasm of anxiety through the authorities of the health department. This determination of the amount of organic matter present is the best criterion of the potability of water that sanitary science can at present give us. How liable to error it is, however, may be judged from a fact reported not long ago from England. A sample of reasonably good water was deliberately sown with typhoid bacilli and sent for examination to a well-known chemist of great experience in the examination of water for sanitary purposes. He pronounced it wholesome and safely potable at a time when a control sample of the same water was demonstrated to contain virulent typhoid bacilli.

In this dubious state of sanitary science with regard to drinking-water we welcome cordially Dr. Dunham's contribution to the subject. We consider that the conclusions he has reached by his investigations are the result of original work of a high order and that some of the methods he suggests will prove of great service in regaining once more for bacteriology the place it should hold as the mistress of sanitary science, especially in the department of drinking-water. The scheme of following the water in its cycle from the time it rises as vapor till it flows back to the sea and showing the sources and kinds of contamination it is liable to, with the modes of their determination, breathes a true scientific spirit. The methods of detecting the presence of colon bacilli and putrefactive bacteria deserve thorough practical trial for they seem to furnish the reliable delicate tests of the presence of sewage contamination which our present coarser chemical methods almost entirely miss. The work on the subject has been excellently done and the details have been elaborated with a patience that is worthy of the highest commendation.

EPITHELIAL REGENERATION, EPITHELIAL OVERGROWTH AND CANCER.

ONE day last year Professor Virchow asked some Americans who were working in his laboratory in the Pathological Institute at the Charité, Berlin, if they knew anything of Leo Loeb who was working somewhere in America on pathology and histology.

They confessed that they did not know. Virchow said that some of Loeb's recent work on epithelium was the best that had been done on that subject for many years, and that as a consequence he wanted to know more of the man. We are glad to note, therefore, that Loeb's work is beginning to attract here in America some of the attention that it evidently deserves. In the advance sheets of *Progressive Medicine*, the new quarterly review of medical progress, edited by Professor Hare, we find in the section on pathology an abstract of the article on "The Regeneration of Epithelium," which appeared in *Roux's Archiv f. Entwickelungsmechanik*, and which attracted Virchow's attention. This periodical is seldom abstracted in American medical journals and this is the first notice that we have seen of the work on this side the water. We think it worth while then to give some of the points of special interest.

Epithelium, in regeneration, develops certain histoclastic properties; that is, it removes tissues of a lower order that hinder its progress. From the margins of a tissue defect in the process of cicatrization, epithelial protoplasmic, or plasmodial, processes move in a sliding manner over the naked surface, enclosing and dissolving the crust and other obstacles. Regenerating epithelium readily removes even such substances as cartilage when it comes in its way. Below the protoplasmic layer, epithelial cells wander in from the margins of the defect and often grow down into the connective tissue, apparently checking the growth of the latter. The process is closely allied to that in carcinoma. At the same time active changes, such as mitoses, occur in the epithelial cells situated even at a distance from the margin of the wound. When the advancing epithelium meets obstacles, such as hair-follicles, cysts may form by fusion of cells around the object.

Loeb believes that the wandering of the cells as he has observed and described it is in response to sterectofusion, and that the active influence of particles of solid tissue on each other forms a determining factor in inducing mitoses in neighboring cells. If a minute portion of epithelium be transplanted to the center of the crust covering a skin defect, it begins to send out processes in all directions into the crust, the cells acting as separate organisms independent of blood-supply or nervous influences.

It is easy to see how important to the student of the etiology of carcinoma such observations are. The essential vitality and reproductive activity of regenerating epithelium, with its germinal influence on surrounding cells, represent the awful biologic forces that run riot in the tissues in that segregation of epithelial cells we call cancer. The study of the conditions under which these forces are brought into play brings us nearer to the explanation of the origin of malignant neoplastic tissue. We have had for a number of years a new parasite described each year as the cause of cancer. We have had it of all forms, the simple ferment, the bacterium, the protozoon. Perhaps now we shall get a little nearer the explanation of the mystery, that has remained just as much a mystery despite all the parasitological work done upon it. These careful studies into the biology and pathology of the epithelial cells themselves will awaken new interest in a line of work that has been more or less neglected in recent years because parasitology seemed to present such an inviting field for successful work in etiology.

ECHOES AND NEWS.

The International Association of Railway Surgeons.—The next annual meeting of the Association will be held at Richmond, Va., May 31 and June 1 and 2, 1899. The secretary is Dr. Louis J. Mitchell of Chicago.

Typhoid Fever in Newark, N. J.—There were on March 18th, 105 cases of typhoid fever in Newark, N. J., the largest number ever recorded. The cases have nearly all been traced to the use of polluted Passaic River water.

A Woman Physician's Suicide.—Dr. Amelia C. Perry, sixty years of age, a woman physician very well known in and about her home at Hornellsville, New York, committed suicide by shooting herself near the heart on March 16th.

Smallpox in the South.—In North Carolina smallpox is rapidly assuming the proportions of an epidemic. Compulsory vaccination has been ordered in various places. At Greensborough failure to comply with the ordinance subjects the offender to a fine of $20.

To Bring Back Soldiers' Bodies.—The transport "Roumania" left Santiago on March 23d with 500 bodies of soldiers who have died in Cuba and Puerto Rico. She will arrive in New York about March 28th. In all there are 1900 bodies which the "Roumania" will bring to this country. The bodies upon arrival will be interred in Arlington Cemetery, Washington, unless otherwise requested by friends.

Dr. Skene's New Position.—Dr. A. J. C. Skene of Brooklyn has accepted the presidency of a proposed institution, to be called the Hospital for Breadwinners, which will be built for the accommodation of self-supporting women who are overtaken by ill health. Dr. Skene has been officially connected with the Long Island College Hospital for more than thirty years, and has just resigned the presidency of that institution.

Is There a Sense of Taste?—According to some experiments which have been made at the University of Iowa, sensations of taste seem really to be combinations of reports to the brain made by the nerves of sight, smell, and touch. For instance, few among a large number of persons upon whom tests were made could distinguish, when their eyes were covered and their noses closed, between weak solutions of tea, coffee, and quinin.

Physicians Forbidden to Testify.—On March 13th Governor Roosevelt signed an amendment to the civil code which had passed both houses at Albany. This amendment absolutely prohibits a physician from divulging any information he may have acquired in his professional capacity concerning any patient, either before or after the latter's death. For a long time the insurance law has permitted a physician to testify concerning the physical condition of a policy-holder.

Was It a Phantom Tumor.—The *Trained Nurse* for March, 1899, relates that a woman was recently taken to the Seney Hospital, Brooklyn, suffering from what appeared to be an abdominal tumor. The surgeons examined her and fixed upon a day for operating. Just before the time set the woman arose, dressed herself and walked out of the hospital. She had been "cured" by fright. If she had got into the clutches of a Christian Scientist, another "miracle" might have been reported.

Death Ends a Honeymoon.—On February 21st Dr. William Waldo Van Arsdale of New York City, while ill in bed with an acute attack of grip, married Miss Edith May White, a daughter of Dr. and Mrs. Whitman V. White. The doctor grew better and went with Mrs. Van Arsdale to Atlantic City wnere he suffered a relapse and died on March 17th. Dr. Van Arsdale was Chairman of the Surgical Section of the New York Academy of Medicine, Professor of Surgery in the New York Polyclinic, and Assistant Visiting Surgeon to the Mount Sinai Hospital.

New York City Board of Health and the Manufacture of Serum Antitoxins.—The Medical Board of the New York Foundling Hospital and the Medical Board of the Presbyterian Hospital of New York City have adopted resolutions deprecating the passage of the bill now before the Legislature restricting the New York City Board of Health in its manufacture of serum antitoxins, declaring that the passage of the bill would materially injure the interests of the community, and that any curtailment of the present facilities of the Health Department would react against the public good.

The Approaching Meeting of the American Medical Association.—Arrangements for the meeting of the Association at Columbus in June are rapidly approaching completion. The Grand Opera House which has a seating capacity for 1700 people has been secured for the general meetings and thirteen halls have been provided for those of the different sections. The hotel people are said to be lending generous assistance and give assurance that they can accommodate more than 2000 guests. The section dinners have all been arranged for and plans for general and private entertainments are well under way.

New Building for the Paris Academy of Medicine.—The Academy of Medicine of Paris has accepted the plans for its new home and work is about to be begun. Its old quarters were cramped and utterly unsuitable; the new building is to be palatial in size, architecture, and internal finish. It is hoped that part of it will be ready for occupancy before the International Medical Congress in August of next year. The architect is the well-known M. Rochet, and competent critics who have seen the plans pronounce them magnificent and unite in declaring that the new building will be one of the handsomest in Paris.

To Study Diseases in the Philippines.—The Johns Hopkins University is about to send Dr. Simon Flexner, Professor of Pathological Anatomy and Resident Pathologist of the Johns Hopkins Hospital, to Manila, in order that he may make a clinical and pathological study of diseases prevalent in the tropics. Two medical students, Messrs. Joseph M. Flint of Chicago and Frederick P. Gay of Boston, will go as assistants. The party will sail from Vancouver on March 27th and will return early in the fall. They will take with them the best modern instruments and appliances for the proposed investigation.

Spitting on the Floor of Public Conveyances.—The recent propaganda of ideas as to the prophylaxis of tuberculosis has led to a somewhat better enforcement on the part of street-car employees of the rules as to spitting on the floors of street-cars. The notice posted conspicuously in the electric cars of Scranton, Pa., commends itself by containing in condensed form the morally suasive motives that would prompt would-be violators to restrain themselves and repress their expectoration. It reads as follows: Spitting on the floor of street-cars and other public conveyances is strictly prohibited. By order of the Board of Health. Gentlemen will comply with this reasonable order which is in the interest of public health. Conductors are instructed to eject from the car any person refusing to comply with this order.

Christian Science Interferes.—The wife of Colonel Charles C. Rivers of Chelsea, Mass., on March 9th was stricken with paralysis. Dr. Hawes, who was called in, prescribed and gave a favorable prognosis. Mrs. Rivers was a Christian Scientist, and after the physician's visit, some of these "peculiar people" were called in to attend her. It is alleged that they discontinued the medical treatment, upon which the patient rapidly grew worse. Dr. Hawes was again called, but the case was then beyond medical control and the patient died on March 11th. The physi-

cian refused to sign a death-certificate, and a medical-examiner who had to be called upon, gave the cause of death as "neglect." The case has been submitted to the District Attorney, and a trial in the Massachusetts courts is likely to result to determine the legal standing of practitioners of Christian Science.

Health of Our Troops in the Philippines.—Lieutenant-Colonel Henry Lippincott, chief surgeon at Manila has forwarded to Surgeon-General Sternberg a report concerning health conditions in the Philippines. In this report it is stated that a convalescent hospital has been established at Corregidor Island, the capacity of which can be increased to accommodate 400 patients. The island is at the entrance to Manila Bay, where there is refreshing sea air and less excessive heat and an absence of the naturally unhealthy conditions surrounding Manila. The health of the commands continues fairly good. There is a marked decrease in the number of typhoid and malaria cases; complaints from dysentery remain about the same. Smallpox prevails to a considerable, but not to an alarming, extent. The entire command has been vaccinated four times since the appearance of the disease.

The Presidency of the New York City Board of Health.—An effort is again being made before the New York State Legislature to amend the law which prevents a member of the medical profession from being elevated to the position of president of the New York City Board of Health. No satisfactory reason has ever been presented as to why this restriction should have been made. It is certainly recognized that many medical men in New York City are not, to say the least, inferior in executive ability to the representative men in other walks of life. The education and training of the medical man eminently qualifies him for the position of President of the Board. The medical profession should unite in a demand that this restricting clause be repealed and individual members should write to their representatives in the Legislature demanding their support in the passage of the desired amendment.

International Congress of Medical Ethics.—Among the other congresses to be held in Paris in 1900 in connection with the Thirteenth International Medical Congress will be one under the title of the "International Congress of Medical Ethics." The members of the organizing committee include some of the most prominent medical men in France: Professor Brouardel who was re-elected Dean of the Medical School of the University of Paris, Professor Cornil who is a member of the French Senate, Professor Gariel, and others. Those who desire information as to the proposed proceedings of the Congress and its purposes should address all communications to M. le Dr. Léreboullet, President of the Committee, 44 rue de Lille, Paris, or M. le Dr. Jules Glover, Secretary General, 37 Faubourg Poissoniére, Paris. Further information as to the purposes of the Congress and the questions proposed for discussion are to be made public in the near future.

Canned Food in the French Army.—According to the *Army and Navy Journal* a number of men of the Eighty-second Infantry at Sens were recently seized with vomiting and diarrhea of exceptional gravity of whom twenty were sent to the hospital and one or more died. An inquiry showed that the attack was due to the consumption of preserved food of defective quality. At Havre twenty thousand cans of preserved meat which had been for some time in the stores were opened, and though their contents were undoubtedly wholesome they were thrown into the sea. The *Army and Navy Journal* observes that the French authorities are obviously not up to date. They should have roundly abused every one who ventured to suggest that the canned meat made them sick. The conclusion having been reached that meat preserved in cans should not be kept too long, orders have been issued by the French Government that all canned food bearing the date of 1893 and 1894 and all salt pork dating from years previous to 1898 shall be destroyed.

No Yellow Fever in Louisiana.—The people of Louisiana are congratulating themselves on the prospect of escape from any recrudescence of yellow fever in that portion of the South during the coming summer. In this flattering prospect they see compensation for the discomfort of the low temperature from which they have suffered during the past few months. The thermometer in certain localities has dropped as low as twenty-five degrees below freezing-point. If yellow fever appears within the limits of the State, therefore, the quarantine authorities will have some difficulty in making a satisfactory explanation to the people. We note in the daily press in this connection the deplorable fact that President Edmund Souchon of the State Board of Health and Dr. Quitman Kohnke of the City Board have been indicted for alleged manslaughter in a little town known as East Felinicia for having been the indirect cause of a death in the parish through the introduction of yellow fever from New Orleans as they failed to inform the county parishes of the existence of the disease in that city.

The American Congress of Special Societies.—This Congress will be convened at Washington, D. C., on the second Tuesday in May, 1900. The Executive Committee, composed of one delegate from each one of the fourteen participating societies, at the invitation of its President, Dr. Landon Carter Gray, held its annual meeting at the Union Club, New York, on March 18th. All the members were present. As this committee has the power of self-organization it exercised it in the re-election of Dr. Landon Carter Gray as president and Dr. William K. Simpson of New York City as secretary. The committee also elected officers for the next Congress as follows: President, Dr. H. J. Bowdich of Boston; secretary, Dr. W. H. Carmalt of New Haven; treasurer, Dr. N. M. Shaffer of New York. The committee decided to limit the next meeeting of the Congress to three days instead of four. Two of the afternoons will be occupied by the Congress in general conclave. The first evening will be left open for the individual meetings of the participating societies. The second evening will be devoted to the President's address and reception, and the evening

of the third day to a general banquet. Dr. A. Jacobi of New York and Dr. W. H. Welch of Baltimore were added to the Committee of Arrangements.

CORRESPONDENCE.

TYPHOID FEVER IN PHILADELPHIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I am glad to see that you hold your slippery Philadelphia critic to the point at issue, namely, that Philadelphia drinks water defiled with sewage, and in consequence sickens and dies from typhoid.

A few years ago the city of Munich was in the same rotten state. A loud, popular outcry, in which the physicians not only of the rest of Germany, but of Munich itself joined, at last stirred the authorities to furnish a pure drinking-water in the city pipes. Notice the comparative result in typhoid fever as shown by the official returns of the two cities for the current year:

	Munich.		Philadelphia.	
	New cases.	Deaths.	New cases.	Deaths.
Week ending Jan. 21...	2	0	320	31
" " " 28...	4	0	427	40
" " Feb. 4 ..	2	0	361	38
" " " 11...	3	0	339	41
" " " 18...	2	0	287	38
Total for 5 weeks.....	13	0	1734	188

Munich has 450,000 inhabitants; Philadelphia has 1,300,000, not quite three times as many. In Munich for this period the average number of new cases a week was 2.6, or 5.7 per million inhabitants. In Philadelphia for the same period the average number of new cases a week was 347 or 268 per million inhabitants. In other words, typhoid fever is just 47 times as prevalent in Philadelphia as in Munich. The death-rate in the same period was as 188 to 0.

A CONSTANT READER.

NEW YORK, March 18, 1899.

THE WHITE VERSUS THE YOLK OF EGG AS A FOOD.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—"Eggs make me bilious," is the familiar reply that so often comes to us when we advise the taking of raw eggs. We usually then rack our brains for other suggestions as to easily taken foods, by which we can increase our patient's alimentation. The reason for this "biliousness" I have long explained to myself by a physiological fact not generally known. In many recent works on medicine it is recommended to give patients yolks of eggs to keep up their nourishment, but a little knowledge of physiological chemistry will show I think that it is a mistake to give the yolk preference over the white. Let us take the analysis of the parts:

	NITROGEN.	FAT.	SALTS.	WATER.
White.....	20.4	....	1.0	78
Yolk.....	16	30.7	1.3	52

The nitrogenous parts are egg-albumen and egg-globulin, both easily digested and assimilated. The fatty substance in the yolk is mainly lecithin. It has long been regarded as a physiological fact that this fat—lecithin—in undergoing digestion is converted by the pancreatic juice into glycerin, phosphoric acid, stearic acid, and a poisonous alkaloid called choline. We are protected, however, against this poison by the bacteria in the intestines, which seize on it and convert it into carbonic acid, methane, and ammonia.

Now surely it must happen that these bacteria are not always on duty, or, perhaps, they have more to tackle than they are able to convert, allowing some of this choline to become absorbed, giving rise to this biliousness. I have repeatedly found that a patient made "bilious" by one whole egg can take a dozen raw whites daily without discomfort, and greatly to his advantage. I have many tuberculous patients gaining by the extra strength these whites give when taken between meals. I find an excellent way to take them is to add a little salt, red pepper, and lemon juice to three whites in a glass, but these condiments are not always necessary. Infants will often do well on them when dissolved (not beaten) in water, and a little sugar of milk added; it should be remembered, however, that the egg-globulin does not dissolve in the water, but is precipitated and should be separated by straining.

I often make use of a physiological principle with success with the help of these whites of eggs. I have found that if a weakly patient on waking takes two whites of eggs his appetite on getting down to breakfast is greatly benefited, thereby illustrating Heidenhein's experiment on gastric secretion.

GERALD BERTRAM WEBB, M.D.

COLORADO SPRINGS, COL.,
February 20, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE TYPHOID-FEVER EPIDEMIC AT LAST AROUSES PUBLIC INDIGNATION—AN ENDOWMENT FOR THE LIBRARY OF THE COLLEGE OF PHYSICIANS — A CASE OF INTRATHORACIC TUMOR—TYPHOID COMPLICATED BY MANIFESTATIONS OF HEMORRHAGIC DIATHESIS — A CASE OF ACUTE THYROIDITIS — A STATUE OF DR. PEPPER—PERSONAL NOTES—DR. FLEXNER CALLED TO THE UNIVERSITY — BOARD OF HEALTH NOTES AND HEALTH STATISTICS.

PHILADELPHIA, March 21, 1896.

A MASS meeting of citizens of Philadelphia was held at the Bourse Saturday evening to protest against the criminal action of our councilmen in delaying the improvement of the water-supply, and incidentally these same unique specimens of manhood were treated to some compliments which would pierce the hide of anything except a Philadelphia councilman. The meeting was remarkable, for not only physicians, ministers, and lawyers of the first rank, were present, but public officials and politicians joined the throng which crowded the Bourse. The meeting was an outgrowth of various ward-meetings held throughout the city last week. In his introduction, Mr. William Waterall, who presided, said: "This is a profound, a serious question, and surely it will lead to a

revolution. Let us deal with it as our New England friends did, and rise up and break up councils." Mr. Charles Richardson said among other things: "We hear that there are capitalists who want our water-works, and that they are in collusion with persons of influence who are keeping the water-works in such bad order that they may break down at any moment. Of all men, if this is true, they deserve hanging most. We want no more murders; what we want done, we want done now." Mr. Herbert Welsh said that Philadelphia has been ravaged for three months by an epidemic of typhoid fever, which all would admit is the direct result of a polluted water-supply. "If we dare speak the truth we must admit it comes through our own folly and wickedness. By years of indifference and by persistence in a course which was perfectly sure to have this sequel we have courted this calamity." Among physicians who spoke were Drs. H. C. Wood, John H. Musser, and W. W. Keen. Dr. Wood said that at the present rate one person in every four of Philadelphia's population will have had typhoid by the end of the year, and he also pointed out the fact that to say cases were reported as typhoid which were not so, is both childish and ignorant, as the mortality statistics show only too well that a poisoned water-supply means disease and death always. Dr. Keen compared Philadelphia to Havana and characterized it as only a half civilized city. He gave the statistics of typhoid fever during ten years in Philadelphia, and said that, "It is barbarous; it is worse, it is murder. An eminent English scientist said that for every case of typhoid fever some one ought to be hung. The only reason why the members of councils are not hung is because there are not enough to go around."

What a commentary on a city of Philadelphia's fame as a center of medical teaching! Run by a gang of political thieves is it any wonder that such frightful figures as *ninety-five new cases* of typhoid fever are reported during one day? What puerile trash are statements attempting to deny or defend the death-rate from typhoid, or to compare the statistics of New York, Boston, or any other city in the United States! The papers are teeming with accounts of the Windsor Hotel fire, and yet the loss of life in that catastrophe is nothing when compared with the number of persons dying from typhoid. The property loss, too, sinks into insignificance when compared with the cost of caring for the 4000 cases which have developed since January 1st, and with the business losses which will certainly follow when our more civilized neighbors will refuse to come to a plague-stricken city.

The College of Physicians is anxious to increase its library, and with this end in view an effort is being made to secure an endowment fund of $50,000, of which $20,000 has already been collected. Until quite recently the library ranked next to that of the Surgeon-General's Office at Washington, but recently that of the New York Academy of Medicine has forged ahead. An interesting fact in regard to the college is that out of a membership of about 300 thirty-one wrote or edited medical books during the past year.

At a meeting of the College of Physicians, held March 13th, Dr. J. M. Miller reported a case of intrathoracic tumor which occurred in a man, aged thirty-eight years, who was presented at the meeting. Pain in the left side of the chest, and pain, dyspnea, and loss of weight, were complained of, and in addition, during the past eight months a tumor had been visible which extended from the second to the fifth rib, and from the left edge of the sternum, to the anterior axillary line. There was no enlargement of any veins, nor of the cervical or axillary glands. The blood examination revealed a moderate lymphocytosis, and it was suggested that the tumor might be a lymphosarcoma, or possibly a chondroma.

Drs. John H. Musser and Joseph Sailer reported a case of typhoid fever, complicated by manifestations of hemorrhagic diathesis, which occurred in a boy of nineteen years, who had hemorrhages in the mouth and nose, and in the subcutaneous and intermuscular tissues all over the body. These hemorrhages occurred early in the course of the typhoid, and the patient having died, the autopsy revealed an ulcer in a Meckel's diverticulum (the second case reported within a week or ten days) and a patulous foramen ovale.

Dr. H. A. Hare reported a case of acute thyroiditis with thyroid poisoning which occurred in a woman after slight injury to the right side of the neck. The right lobe of the thyroid became enlarged, and fever, palpitation, and other symptoms apparently due to the presence of thyroid substance in the general circulation developed. Most cases have terminated in suppuration and death, although Dr. Musser referred to one in which, after suppuration, the patient recovered.

At a meeting of the committee having in charge the preparation of a memorial to the late Dr. William Pepper, held last week, it was decided to erect a bronze statue of Dr. Pepper on the City Hall Plaza, and Drs. J. C. Da Costa, Alfred C. Lambdin, H. C. Wood, and Edward Brooks were appointed on the subcommittee having the matter in charge.

Dr. Spencer Morris, Professor of Medical Jurisprudence in the Medico-Chirurgical College, was stricken with paralysis just as he was about to deliver the last lecture of the term on this subject last week. He is reported to be much improved though he has not yet regained the use of his left leg and arm.

Drs. Charles E. Harvey and P. A. Bayer have been appointed by Governor Stone members of the State Board of Health and Vital Statistics.

Dr. Louis W. Reid, retiring Surgeon-General of this State, was tendered a complimentary dinner at the Union League Club on Saturday night. The dinner was attended by three ex-Governors, during whose administration Dr. Reid had served, and all spoke of the faithful service he had rendered during the thirty years in which he continuously held this office.

Dr. Simon Flexner, Professor of Pathological Anatomy in the Johns Hopkins University, has accepted the position of Professor of Pathology in the University of Pennsylvania, to succeed Dr. John Guiteras, resigned, and will enter upon his new duties on September 1st. He had already declined offers from several medical schools, notably one in New York, and one here in Philadelphia.

The bill passed by the Senate, abolishing the Board of Health and creating a Bureau of Health, may not prove to be any advantage in the methods of caring for the public health. This bureau will be under the same control as is the Bureau of Street Cleaning, which gave such a delightful example of its efficiency during the blizzard when traffic was paralyzed owing to its negligence in removing snow and dirt. It remains to be seen whether the head of this bureau will take advantage of the opportunities offered and give us really good service or whether it will degenerate into a foul politicians' nest like its sister departments.

The total number of deaths occurring in Philadelphia for the week ending March 18th, as reported at the Health Office, was 520, an increase of 36 over those of the corresponding period of last year. Of this number 127 occurred among children under five years of age. The total number of new cases of contagious diseases was 571, reported as follows: Diphtheria, 59 cases, with 9 deaths; scarlet fever 35 cases, with 1 death; *typhoid fever, 477 cases, with 44 deaths.*

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

JONNESCO'S METHOD—DEVIOUS MANIFESTATIONS OF EPILEPSY—RELATIONS OF THE COLON TO INTRA-ABDOMINAL TUMORS.

CHICAGO, March 21, 1899.

AT a meeting of the Chicago Medical Society, held March 15th, Dr. Carl Beck presented a contribution on the value of resection of the sympathetic ganglia of the neck in the cure of epilepsy, and reported several cases in which he had operated. In reviewing his results, he summed up by saying that the method suggested by Jonnesco, and so highly praised by him and his followers, is hardly of any value, and that the few changes for the better that are observed are either accidental or such as are noticed in almost any case following surgical interference. It will be remembered that it was in 1897 that Jonnesco recommended total extirpation of the sympathetic ganglia of the neck on both sides for epilepsy, Basedow's disease, hysteria, chorea, tumor of the brain, progressive paralysis, and many other similar diseases. In all three cases of genuine epilepsy reported at that time the cure was said to be perfect, but they were only observed for a short time. Navratil of Budapest also reported three cases of operations similar to those of Jonnesco and Donath, and described the results, which were negative. Dr. Beck is inclined to favor the removal of the cervical sympathetic ganglia for the treatment of Basedow's disease, believing it would prove of value. It is less dangerous and less difficult than any other surgical method suggested for the treatment of this disease; but as for the cure of epilepsy, he is satisfied that Jonnesco's method is of doubtful value.

Dr. Sanger Brown read a paper at the same meeting on the devious manifestations of epilepsy. He expressed the conviction that the main pathologic feature in epilepsy consists in a sudden disturbance of equilibrium between the several forces of the central nervous system. He regards all neurons directly connected with end organs as peripheral, and all others as central, although the latter are frequently further subdivided into projection, intermediate, etc., this equilibrium being soon completely restored, and a permanent tendency to recurrence remaining. Few observers, who have given the subject much attention, will dissent from the view that by far the most potent etiologic factor consists in a predisposition inherent in the cerebral tissues to undergo those changes which give rise to epileptic phenomena. Some ingenious arguments have been advanced to the effect that the main causative element consists in a vice of metabolism, resulting in an excess of some noxious substance or substances accumulating in the tissues of the brain, and thus exciting this abnormal activity. But even if this is admitted, it is not unreasonable to assume that this metabolic vice owes its origin mainly to influences derived from the nervous system, so that in either case an inherent pathogenic tendency of the central nerve elements has a similar etiological significance. The simple fact, however, that therapeutic measures projected on the basis of an autotoxic etiology have been notably barren of results, so far, at least, rather discredits this theory. Individuals are frequently met with, however, who, on the one hand, have been repeatedly exposed to influences usually regarded as especially likely to act as exciting causes of epilepsy, without developing the disease, and, on the other hand, innumerable instances are observed where the disease develops without any appreciable exciting cause whatever. thus powerfully magnifying the probability of an inherent predisposition. Several cases of epilepsy were reported in which the manifestations varied very materially.

At a recent meeting of the Chicago Medical Society, Dr. M. L. Harris read a paper on relations of the colon to intra-abdominal tumors. He said that one of the first and most important points to be determined in the diagnosis of a tumor of the abdomen is the particular organ or tissue from which the tumor takes its origin. Could this always be accurately determined, the diagnosis would often be much simplified. The old method of subdividing the topography of the abdomen into regions by arbitrary lines so that a tumor found occupying any particular region could be referred to an organ normal to that region, is very unsatisfactory, for the reason that some organs are not always found in the same region, and, again, owing to the facility with which a tumor may be displaced from one region to another. The particular point is not to determine the relations of the tumor to the abdominal topography, but its relations to the viscera themselves. To facilitate this a new subdivision of the abdominal cavity is proposed, based upon definite anatomical outlines. Taking the inferior or caudal layer of the transverse mesocolon and the internal or mesal layer of the ascending and descending colons as a fixed anatomical boundary, the abdominal cavity is subdivided into four areas or regions, namely: The central region, surrounded by the mesocolons; the superior region, lying above the transverse mesocolon; and the right and left external regions, lying external and posterior to the longi-

tudinal mesocolons. This boundary is not recognizable through the intact abdominal wall, but attached throughout to its free border is the colon which can, at all times, be easily outlined. The best method of outlining the colon is by distending it with ordinary air. This is easily done and occasions no trouble. While the boundary here mentioned is in a manner fixed, it may be easily displaced by a tumor. The various tumors common to each of the subdivisions were then mentioned, and numerous cases cited illustrating the characteristic displacement of the colon which is produced by particular tumors. By distending the colon with air and recognizing its characteristic displacement, one is often able to refer a given tumor to the particular organ from which it takes its origin, and thus materially facilitate a correct diagnosis. The following points were emphasized: First, the great importance, clinically and diagnostically considered, of the subdivisions of the abdominal cavity as outlined. Second, the colon, or some part of it, bears a characteristic relation to most intra-abdominal tumors, and an accurate knowledge of such relation is of greater diagnostic importance than any other single point.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE PRINCE OF WALES' HOSPITAL FUND — LONDON HOSPITALS WHICH RELY UPON VOLUNTARY CONTRIBUTIONS FOR THEIR EXISTENCE — DEATH OF PROFESSORS RUTHERFORD AND STRUTHERS.

LONDON, March 10, 1899.

THE Prince of Wales' Hospital Fund Association has just held its second annual meeting, and the Treasurer, Lord Rothschild, reported that $152,500 had been distributed among the London hospitals during the past year. The existence of this association, nobly beneficial as it is, calls attention to the extraordinary condition of affairs which obtains in the financial status of nearly all the London hospitals. With a few exceptions they are all chiefly dependent, and many of them entirely so, upon voluntary subscriptions from year to year for their running expenses. A few are richly endowed, but many have practically their entire capital invested in buildings, ground, and fittings, and must literally beg their living from the charitable public. So far the public has nobly responded, and the great London Hospital in Whitechapel makes its boast in large letters across its front that it is "supported entirely by voluntary contributions," but it is a singular and most anomalous state of affairs in the richest city of the wealthiest nation in the world. In some respects it does not work badly, as it is a good thing for the hospitals to be compelled to "earn their salt" and make their work prove their value to the public, and it keeps a larger class of the people in touch with hospital needs and hospital progress than an endowment or a government subsidy would. On the other hand, the drawbacks are many. It is little short of scandalous to permit such a precarious "hand-to-mouth" existence on the part of the most vital and important institutions of the community. It makes the rivalry between the hospitals intensely keen and bitter as all are drawing upon the same purse, and each feels that the others' gain is like to be its own loss. Sad to say this feeling even extends to the medical staffs, and the "Bart's" man knows no more of Guys' or St. Thomas' and their methods than he does of the Allgemeine Krankenhaus; no man can belong to the staffs of two of the teaching ones at the same time; the calling of a teacher from one hospital to fill a chair in another is a thing almost unheard of, and the jealously between them is almost incredible in men who are in all other respects educated, broad-minded gentlemen.

What makes this unfortunate attitude more serious is that the entire medical teaching of the metropolis is in the hands of the medical schools attached to the great hospitals, the faculty of each consisting entirely of members of the staff of the particular hospital, with the exception of a few purely scientific chairs. And finally, this dependence upon public favor makes the hospitals both extremely subject and sensitive to all sorts of irresponsible criticism. Some busybody discovers a case of supposed "heartless treatment" and reports it with artistic embellishments to a newspaper, the dear public promptly sympathizes with the patient, and a serious injury has been done not merely to the reputation but also to the income of the hospital, an injury for which there is no redress, and which no amount of official investigation and formal proof of the baselessness of the charge can more than half undo. Hence, members of the staff are often unpleasantly hampered in methods of treatment or in letting self-limited or harmless diseases run their normal course for fear of the bray "experimenting" being set up by the "antis" and their kindred.

Death has again been busy within the ranks of our profession. The celebrated Professor William Rutherford of Edinburgh, familiarly known in medical circles as "Bili Rubin," died on February 21st of influenza. He had been professor of physiology in the University of Edinburgh for twenty-five years, and was widely known both at home and abroad by his valuable original researches, especially that, as his pet name implies, upon the constituents of the bile and the effect upon their excretion of various drugs.

Almost the same day there passed away in the fulness of years and reputation his old teacher in anatomy, Sir John Struthers. Born in 1824, he became an extramural lecturer in the University of Edinburgh about 1848, and soon won such reputation that he was called into the faculty where he gave nearly forty years of continuous service. He was not only a great teacher, but a thinker of great insight and originality, and had advanced views upon the descent of animal forms strongly suggesting the Darwinian hypothesis long before the appearance of the "Origin of Species."

Soon after Professor Kanthack's death a strong desire was expressed by his pupils and friends in favor of some sort of a memorial to his life and services to science. As soon as it transpired that the professor had devoted practically his entire income to the enlargement of his scientific work so that his young widow was left in quite straitened circumstances the memorial committee promptly

decided that the memorial should take the form of a fund, the interest of which should be placed at Mrs. Kanthack's disposal during her life-time, and after her death be devoted to the establishment of research scholarships. And the entire profession will, we think, cordially approve of the committee's action. It is, however, a striking comment, not to say reflection upon the endowment of research in England, that such a state of affairs is possible in the finances of admittedly one of the most brilliant and promising of her original investigators. As was related in a former letter poor Kanthack was actually obliged at one time to give up his laboratory work and attempt to embark in private practice at Liverpool for the sake of a living.

A handsome donation has just been made to Guy's Hospital for the benefit of its medical school by Sir Frederic Wills. The amount is $25,000, and comes in response to Mr. Arthur Balfour's eloquent appeal for the endowment of medical education and research. Lord Iveagh's noble example is bearing excellent fruit already.

The Erasmus Wilson Lectures of the Royal College of Surgeons were delivered last week by Dr. Y. Gregor Brodie, upon the "Chemical and Physiological Properties of Diphtheria Toxin and Antitoxin."

The new laboratories in connection with the Middlesex Hospital Medical School have just been completed and equipped, and will be opened this week with a conversazione.

A singular case of urticaria has been reported by Mr. Hutchinson at his clinic. The patient, a member of Parliament, had been troubled for years by violent attacks of "nettle-rash" at very irregular intervals, each of which lasted for weeks, making his life a burden, and the cause of which had baffled discovery. Upon careful questioning it was developed that the attacks most commonly occurred after eating salmon, but not exclusively, nor did they always follow indulgence in this piscine delicacy. He was, therefore, instructed to experiment carefully with salmon cooked in various ways, and soon found that he could eat it cold, pickled, or escalloped with impunity, but that boiled salmon always brought on an attack. This in England is religiously served with parsley sauce, but happening one day to eat some without this condiment he was surprised to find no unpleasant after-effects, and acting upon this clue found that the real cause of his trouble was the parsley, and that if this were taken in or with any other dish urticaria promptly followed. By scrupulously avoiding this herb in every form the disease was completely got rid of, and he has had no attack of it now for several years.

A most interesting case of syphilis was also presented, in which the groins of the patient were filled with large, flat-topped cauliflower-like, soft warts, bathed in pus, and closely resembling the papillary out-growths of yaws. Mr. Hutchinson said that he regarded yaws as the parent of syphilis, developing in the tropics, and chiefly in the dark-skinned races, and brought back by explorers to temperate climes. Fifty years ago a disease known as "sibbens" or "button-scurvy" was comparatively common in the north of Scotland and Ireland, and was absolutely indistinguishable from yaws. This was clearly proven to be a neglected form of syphilis, and under prompt mercurial treatment has now entirely disappeared.

Dr. Vivian Paore delivered last week the first of a series of lectures upon "The Soil in Relation to Disease." He stated that the group of "soil-diseases" was being rapidly diminished of late years, and one after another attributed to animal or insect hosts, as for instance, diphtheria, the plague, and malaria. The latter, he quaintly remarked, might now be classed with hydrophobia, as due to the bite of an "animal," merely an arthropod, instead of a mammal.

The bacteria and insects of the soil are our best and most invaluable scavengers, and he exhibited the corpses of a number of rabbits which had been buried some months before in various soils and substances which clearly showed that the most rapid decay took place in those buried in rich garden soil, and only three inches below the surface, next in those buried in the same soil a foot deep, then in those buried in ashes, while those in sand, in quicklime, and in ordinary lime had undergone scarcely a third of the decomposition. Moreover, the remains of the bodies buried in ordinary soil and sand were almost entirely free from odor while those in quicklime, lime, and ashes stank abominably.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

KELOID FROM ACNE—SOME FOREIGN BODIES REMOVED FROM THE MALE BLADDER—A RAPID METHOD OF MAKING A DIAGNOSIS OF TYPHOID FEVER—INDICATIONS FOR THE RADICAL OPERATION IN HERNIA—GASTRIC ECTASIA WITH TETANIC SYMPTOMS—INTERMITTENT HYDROPS OF THE KNEE—A MASS OF HAIR IN THE STOMACH WEIGHING ONE POUND—INOCULATION OF TUBERCULOSIS AT CIRCUMCISION—AN IODID ERUPTION UPON THE INTERNAL ORGANS—METHODICAL EXERCISE AS A TREATMENT FOR DEAFNESS.

AT the Berlin Medical Society, January 11th, BUSCHKE showed a negro, aged thirty-four years, from whose neck he had removed a large keloid. Two years before his face and neck broke out in large acne pustules which were treated in various ways with considerable benefit. On the back of his neck, however, a tumor developed which at the time of operation had an irregular rough surface. It was hard at the periphery but somewhat softened in the middle. There were also several ulcerations in the skin over it. Microscopically it was found to be a keloid, and the history left no doubt that it developed from the acne pustules. It was removed and the gap covered by a Thiersch graft. Three months later another keloid was already forming in the scar.

BUSCHKE showed a patient from whose bladder he had removed a lead-pencil by suprapubic cystotomy. It had been in the bladder two weeks, had fallen into three pieces and had become partially encrusted. The patient denied having used the pencil for sexual excitement, and stated that he had gone to sleep with it in his hand, and upon waking up was unable to find it.

POSNER mentioned another case of masturbation in

the male by the introduction of a foreign substance into the urethra. Articles which have been introduced for this purpose are rarely found in the male bladder although common enough in the female bladder. He had removed from the bladder of this patient a rubber tube 56 cm. (22 inches) long and 3½ mm. (¼ inch) thick. By means of a lithotrite the tube was extracted from the bladder without difficulty and the violent cystitis quickly disappeared.

At the session of January 25th, PIORKOWSKI gave a demonstration of a rapid method of distinguishing typhoid bacilli from colon bacteria. He found that the amount of gelatin in the culture media which he employed was so slight that the typhoid bacilli took on in twenty hours a perfectly characteristic form of growth. For this purpose he prepared the medium as follows: Normal urine of a specific gravity of 1020 was collected for two days, the reaction having in that time become alkaline. One-half per cent. of pepton and 3.3 per cent. of gelatin were added and the whole cooked over a water-bath for an hour, and filtered. The filtrate was poured into glasses and sterilized at 100° C. for fifteen minutes, and again the next day for only ten minutes. Upon this medium in twenty hours colonies of the bacteria coli, kept at an even temperature of 22° C. appeared yellowish and round with sharp edges; while the colonies of the typhoid bacilli, appeared as if threads were extending from a center. So delicate was this reaction that the omission of the urine from the culture medium or the failure to keep the culture glass at the required temperature was sufficient to prevent the typhoid colonies from assuming the form of growth above described. The typhoid bacilli were obtained from the stools of typhoid patients by simple dilution. In almost all of the tests the number of typhoid colonies far exceeded that of the colon bacteria.

GRAWITZ mentioned the attempts which have been made for years to diagnose typhoid fever by examinations of the blood, by splenic puncture, by examinations of the stools, and recently and with more success by the serum reaction. Even this reaction fails, however, in many cases and often does not appear until several days after it would be most desirable to have a diagnosis. In one of Piorkowski's cases it did not appear until after the correct diagnosis had been shown by the bacillary growth upon the medium referred to.

ROTTER spoke of the indications for radical operation in hernia. Modern statistics prove that the mortality from hernia operations in the hands of the best men, is only about 0.3 per cent., and that recurrence after Bassini's operation is less than 5 per cent. He had only 1 recurrence in 67 cases. Hence operation was to be advised not only to those patients who have an irreducible hernia, or one that a truss will not hold in position; but to all patients with inguinal hernia, who wish to be free from the annoyance of a truss, the surgeon is justified in saying, that in the present condition of surgery, one can promise permanently to relieve the trouble by an operation practically without danger.

He advocated the method of Kocher, especially for operations upon young children, in whom the dressings are apt to become soaked with urine. This fouling of the wound does little damage if the wound is a simple incision, but in the sutured planes of the patient operated upon according to Bassini, more serious mischief is likely to follow a soaking with urine. Recurrence in young children is very rare after any operation. He had never seen an instance of it after any method, and in a number of cases he had simply tied off the sac high up. The most essential point in the perfect cure is primary union. The poor results which were at first obtained by Kocher's method were due to the fact that the twisting of the sac led to its necrosis and to suppuration. He called attention to the fact that Kocher himself did not advise his method for large herniæ, nor for those with thick sacs. Bassini's operation ought always to be performed with absorbable sutures, not with silk.

February 8th, ALBU showed two patients with dilated stomach who suffered from tetanic symptoms. The first was a mason who in repairing a roof, fell to the ground and was picked up unconscious. He must have swallowed some gravel, for the following year his stomach was washed out, and a small stone came out through the tube. His gastric troubles continued, and three years after the accident, there were attacks of hemorrhage, and almost constant vomiting. The stomach was washed out and twenty-two stones were recovered, facetted in such a way as to indicate that they had lain together in the stomach for a long time. The stomach was so dilated that in a fasting condition it was always possible to wash out from one to three quarts of fluid, with remnants of the meals of several days previous. At this time symptoms arose which were looked upon as tetanic. There was headache, failure of the memory, dizziness, itching of the hands, and often cramps of the fingers. Regular lavage helped the subjective symptoms somewhat.

The second patient had a marked gastric ectasia from pyloric stenosis from a small scirrhus tumor as was proved by subsequent operation, for the tumor was too small to be felt. There was loss of weight, and an almost total absence of hydrochloric acid in the gastric juice. One day just before lavage, the patient had a typical tetanic attack, with the body stretched in opisthotonos, and the fingers in the characteristic position of the gynecologist. The electrical irritability of the nerves of the upper extremities was much increased. The attack passed off in a few minutes. The tumor was removed, the patient gained twenty pounds in six months, and all trace of tetanus disappeared.

At the Vienna Medical Club, January 18th, BUM described a case of intermittent hydrops of the knee, occurring in a man, aged thirty-seven years, who had exhibited neurasthenic symptoms for seven years. Periodically for several months the right knee would swell up with fluid, reaching the maximum of its distention in three days, and then gradually subsiding. There was no pain associated with the phenomenon. All measures, general and local had failed to affect the swelling.

SCHLESINGER mentioned a similar case which had come under his notice. The patient was a man not in the least neurasthenic, but for six years from November to March, every other year, the attacks had come on

every ten days. The swelling lasted two or three days, and was associated in its beginning with an increased frequency of micturition and an increase in the daily amount of urine. He also mentioned an instance in which a mass of hair weighing a pound had been removed from the stomach of a woman by laparotomy. The tumor before operation was readily palpated in the left hypochondrium, and was thought to be of the stomach, but its true nature was not suspected until the stomach was opened.

It was free in the cavity of the stomach. Such cases occur only in women, and owe their origin, almost beyond doubt to a habit of biting off and swallowing the ends of the hair. The only treatment is operative, for no other means are calculated to remove the cause.

At the Imperio-Royal Society of Physicians of Vienna, February 3d, NEUMAN showed a baby whose penis had been inoculated with tuberculosis at its circumcision. Several other babies who had been circumcised by the same rabbi had been infected in a similar manner, and the source of infection was beyond a doubt in the mouth of the officiating priest as he had the practice of taking the penis in his mouth in order to stop the bleeding. The difference between tuberculosis and syphilis in such cases is made clear in the course of time, as the tubercular ulcers and infected glands always suppurate.

NEUMANN described the results of an autopsy performed upon a man aged thirty, who died of nephritis and cerebral hemorrhage, while taking iodid of potassium. The drug had produced upon the skin a profuse eruption, and it was interesting to observe a similar eruption upon the kidney, brain, and pyloric portion of the stomach. The seat of the eruption upon the pyloric region was of a special interest since this portion of the alimentary canal is so prone to the development of ulcers and neoplasms.

At the session of February 17th, URBANTSCHITSCH spoke of the value of methodical exercise for deafness. It has been observed that those who hear with difficulty are improved by a single evening in the theater. Such improvement is much more marked if systematic exercises such as listening to a wagon in the street, or to the voice of another individual, are regularly carried out. In such exercises the better ear must be stopped, otherwise the patient simply listens with this ear, while the deaf ear grows worse and worse. Since a person who hears with difficulty is accustomed to divine the meaning of a sentence from those words or syllables which he hears, it is better to use a foreign language in these exercises, or a collection of words without meaning, and the patient should repeat back each word. Words heard indistinctly should be practised over and over again. The distance between the people should be gradually increased, and the rate of speech varied, etc. It goes without saying that the patient must not see the lips of the speaker. These exercises are exhausting, and should not be continued for more than five minutes at a time. The amount of improvement is sometimes great, while sometimes there is no improvement at all, depending on the nature of the trouble.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Regular Meeting, Held January 23, 1899.

THE President, DR. PALMER COLE, in the Chair.

DR. EDWARD R. DUNHAM read a paper, entitled

SIMPLE BACTERIOLOGICAL PROCEDURES APPLICABLE TO THE TESTING OF DRINKING-WATER.

He said in abstract: Eleven years ago when I began to pay some attention to the bacteriology of water its sanitary condition was determined bacteriologically by counting the colonies that would develop from a certain amount of it, usually one cubic centimeter when mixed with some suitable culture-medium. The empirical rule then in vogue as to the sanitary condition of water from a bacteriological standpoint was if one cubic centimeter of the water examined contained no more than 250 bacteria it was good; if more than that it was suspicious; if it contained 1000 it was condemned. This rule, of course, was extremely unsatisfactory in practice. It did not take into account whether the bacteria found were pathogenic or not. We may have a water with 3000 bacteria to the cubic centimeter that would be perfectly innocuous because the micro-organisms were all of harmless varieties; while we may have water containing less than 300 bacteria to the cubic centimeter extremely dangerous because the microbes are all, or nearly all of some pathogenic variety intensely virulent for man.

Then it was thought that value might be given to the bacteriological examination of water by looking for known pathogenic bacteria in it, and as typhoid is the most common of the pathogenic water-borne bacteria the presence or absence of this it was hoped would constitute a good criterion as to the availability of water for drinking purposes. But the differentiation of typhoid bacilli from certain others, especially the colon bacillus, became in course of time more and more complicated. What were considered absolutely distinctive marks lost their value as such. The growth on potato held its ground as a distinguishing peculiarity for some time but it, too, became of a doubtful value and finally the method of differentiation became so involved and required so much time that it became useless. Three to four weeks were required and then a negative result was only relatively conclusive since pathogenic germs might just have been missed in the specimen taken. The bacteriology of water for practical purposes fell into discredit and the necessity for further developmental work became evident.

It seemed worth while to study the possible sources of water-contamination systematically. The life-history of all water is briefly this: It is taken up as vapor from the sea; falls through the air as rain; flows over the surface of the earth in rills to streams and rivers, or filters through it to appear as springs and so eventually enter the rivers and complete the cycle of change by getting to the sea once more.

While in the state of vapor the water is of no interest to the bacteriologist. Falling as rain it becomes contaminated with the bacteria it washes from the air. These

bacteria are, as might be expected, strictly aerobic. It might happen that some of them would be facultative anaerobics, *i. e.*, live normally in the presence of oxygen and yet have the faculty of continuing to live and multiply even in the absence of that gas. In distilled water which had been exposed to the air of the laboratory and the atmosphere out of doors for some time I found no facultative anaerobic micro-organisms. The method employed to demonstrate this was as follows: Petri dishes were prepared in the usual way for the examination of water and then instead of allowing the microbes to develop as usual with free access of air they were put beneath a bell-jar with a water-seal. From this after the inoculated Petri dishes had been put in the oxygen of the air was removed by the presence of a mixture of pyrogallic acid and caustic potash. An hour after the plates were put in all the oxygen had been consumed and as the results show none of the bacteria had time to develop during this short interval. In distilled water exposed to the air as stated above no anaerobic bacteria were found. All of the bacteria washed out of the air are strictly anaerobic. These observations were confirmed by examination of water taken from cisterns and collecting trenches such as may be found in Massachusetts, thoroughly protected from the infiltration of soil-water by cement, and where no contaminating surface-water could enter. Samples taken from these collections of rain-water always had nothing but strictly aerobic bacilli.

The next source of contamination of water in its cycle to the sea is from the soil. A number of samples of distilled water were mixed with measured small quantities of soil and after being shaken up with gelatin cultures were permitted to cool and the bacteria allowed to develop. Some of the plates made were allowed free access to air, others were placed in an atmosphere of nitrogen in the apparatus described. In the air-plates an average of over 30,000 colonies of aerobic microbes were found to have developed from a gram of soil taken from Madison Square, while only some 500 colonies of anaerobic micro-organisms developed from the same amount. Mixture of the water with soil taken from Bellevue Hospital yard led to the development of nearly half as many anaerobic as aerobic microbes. When sewage taken from the main sewer in Twenty-third street was mixed with distilled water the number of anaerobic colonies was ninety-six per cent. as much as that of the aerobes that developed. When the sewage was diluted with water up to one to one-thousand and then twenty-four hours allowed to elapse the result was practically the same and ninety-four per cent. as many aerobes as anaerobes were found to be present. With sewage taken from the ordinary sewer of a small country town instead of New York sewage the result was practically the same. The conclusion is obvious that any considerable number of anaerobic bacteria in water is strongly suspicious of sewage contamination.

This principle applied to Croton water gave the following results: In 1897 about twenty-two per cent. of the bacteria found in drinking-water at the spigot in New York City were anaerobic. In 1898 the anaerobic bacteria numbered but about twelve per cent. Enough certainly to give color to serious suspicion of sewage contamination somewhere along the line.

But so far the methods suggested for the examination of water are merely quantitative and so are open to most of the objections of the older methods. The application of some qualitative method was necessary in order to point out with assurance the presence of dangerous and infective material and in general to point out the probable source of the micro-organisms that occur. The bacilli from the air it was found are mostly chromogenic. Those from the soil belong principally to three classes: There is, first, the family of the hay bacillus; second, that of the bacillus figurans, and third, that of mucoides. The presence of the hay bacillus shows that the water has washed the surface of plants or been in contact with vegetables. In general these three classes of micro-organisms are characteristic of surface-water in country places.

The presence of fecal matter in water because of contamination with sewage is best detected by the presence in it of the colon bacillus and putrefactive bacteria. The test for putrefaction is not difficult. If a small amount of the suspected water be added to a one-per-cent. peptone solution and putrefactive bacteria are present they will decompose the solution and set free H_2S. This may be detected by its blackening action upon a piece of paper previously coated with carbonate of lead which is allowed to hang down into the flask in which the putrefaction is accomplished.

For the colon bacillus the most delicate and satisfactory test seems to be the setting up of fermentation. If the suspected water contains colon bacilli it will cause fermentation in a two-per-cent. solution of glucose. The gas given off is the best sign of this and it may be tested and shown to be CO_2. There are other micro-organisms that cause fermentation and that might be present in water, but their differentiation is not hard. Incubator temperature causes colon bacilli to multiply very rapidly. Sometimes at the end of twenty-four hours almost a pure culture of those bacilli will be found. Other fermentative bacteria are rather inhibited at incubator temperature.

These tests applied to Croton water give the following results: The bacillus mucoides can always be found but means nothing except the percolation of a certain amount of the water through soil. The blackening of the carbonate of lead paper in the peptone solution after the addition of the Croton water shows the presence of bacteria of putrefaction. The fermentation-test is also positive, due to the presence of colon bacilli. This would seem to show that there is sewage contamination of Croton water. Any one who has ever been on the Croton watershed would not be surprised at this. Of course it may be urged that the presence of these putrefactive and fermentative bacteria are due to the washing in of barnyard refuse. This does not improve the matter much, however, as on sanitary as well as on esthetic grounds the presence of barnyard refuse in our drinking-water is not desirable. At present our water-supply is tested chemically and our water is decided to be drinkable. Since there is at present no special prevalence of intestinal dis-

orders it is probable that this is a relatively safe decision. The chemical tests are, however, lacking in delicacy and the conclusions from the bacteriological observations I have detailed to you show that our water-supply is on the border-line of safety and that present conditions are by no means ideal for a great city's water-supply.

As colon bacilli and the putrefactive bacteria do not live except in the presence of organic matter it is evident that a certain amount of this is always either in solution or suspension in the water, for I have been able to demonstrate beyond a doubt that colon bacilli will not live and multiply to any extent in water free from such contamination.

DISCUSSION.

DR. PALMER COLE said that of course present conditions on the Croton water-shed are not ideal; that any one who knows the locality realizes at once; but he was glad to think that at present the water is not dangerous and that dilution of noxious matter present plays so important a rôle in keeping it so. In a few years another immense Croton-water dam will be added to those already present and then the still further dilution will greatly add to New York's safety. He had lived on the shores of a lake during certain summers, where he knew that the lake water was being used as drinking-water and with no serious results, yet where he felt sure that the drainings from the houses of all the effete material of the household must eventually find their way into the lake after being filtered through the soil. Filtration then even under natural conditions could play a great rôle in the purifying of water.

To the question as to whether the samples of Croton water tested were taken from the ordinary drinking-water of New York Dr. Dunham replied that they were and at times when the health department had not pronounced it to be in any worse condition than at others. Every now and then there is a little scare on the part of the New York Board of Health authorities because the nitrites in Croton water were found to be increased. This is taken ordinarily to mean the presence of organic matter and to imply sewage contamination. Any contamination of this kind present, however, is so diluted by the immense volume of water that reproduction of bacteria is practically inhibited. The water in its present condition is not dangerous. The results of the tests he had given were only meant to show that the elements that would prove dangerous if present in larger quantities are really present and that the ideal city water has by no means been reached. The idea had been not to disturb people as to present conditions but to endeavor to restore bacteriology to a place in the testing of water by which it may give even more delicate results than chemistry.

DR. E. M. FOOTE said with regard to the tenacity of life of the bacillus coli communis, that it had been found by Von Baracz still living after nearly a year in portions of intestine that had in animals been cut off from the rest of the intestine and closed by sutures though left *in situ* in order to determine what happened to portions of intestine thus cut off.

DR. DUNHAM said with regard to the purifying effect of filtration that it was marvelous. The water flowing from the Seine sewage-farms near Paris is clear and pure and contains but few bacteria.

DR. COLE said that he understood that trout would live in it. DR. DUNHAM said he knew of an institution in Massachusetts where the sewage of the establishment was used for manure. The drinking-water comes from a well near the farm. This is thoroughly protected from surface or superficial soil-drainage and though the chemical tests show the presence of organic matter, evidently sewage derivatives, no bacteria can be found. Repeated negative examinations had been made and a careful watch was kept for the first sign of bacterial contamination but so far without result.

REVIEWS.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. By SIMON BARUCH, M.D. New York: William Wood & Co., 1898.

THE author of this volume has for many years been known to the medical profession as an ardent advocate of the use of water in the treatment of disease, and no doubt the results of his study and experience as set forth in this volume of more than 400 pages will be welcomed by his professional brethren who, convinced of the usefulness of hydrotherapy, desire instruction concerning the most approved methods of its utilization. The subject is considered in considerable detail, not alone the application of water generally and in individual diseases, but chapters are devoted, entirely unnecessarily we believe, to the "Functions of the Skin," "Anatomy and Physiology of the Skin," "Physical Properties of Water," and "Hydrotherapy in Different Countries." The book is a pioneer of its kind in this country, and as such it should be received. No doubt the author has good reasons for believing that the medical profession has been somewhat apathetic regarding the adoption of water as an agent of great importance in the treatment of almost every disease, but we venture to believe that there has not been such lethargy and "strong feeling of repulsion" as one might be led to think from reading this book. The motto of the volume is a quotation from Dr. H. C. Wood: "Therapeutics developed by empiricism or clinical experience alone cannot rest upon a secure foundation." Why not? On what is the use of morphin based in the relief of pain? Do we in any way understand how mercury acts in the cure of syphilis? Upon what is thyroidtherapy in the treatment of myxedema based? Is it not empiricism and clinical experience?

The author makes altogether too much strife in an endeavor to establish the *rationale* of the action of water on what he is pleased to call a scientific basis, which consists largely in the citation of pulse-tracing and muscle-curves during and after the application of water in different ways. Moreover, his combativeness is manifest in almost every page of the chapters devoted to this part of the subject. For in-

stance, in speaking of the skin as an organ of excretion, he says: "These well-authenticated observations prove incontestably the importance of the skin as a secreting and excreting organ in health and the vicarious utility of this function in disease." Who has ever denied that the skin is an important secretive organ in health, and why quote a catalogue of experiments to prove it? In all fairness it must be stated that the first chapters devoted to the physiological effects of water, the anatomy and physiology of the skin, the physical properties of water, the *rationalé* of the action of water in health, etc., are extremely disappointing and in no way enhance the author's reputation. The chapters on the practice of hydrotherapy are very much more acceptable and to those unacquainted with the modes of applying water they can be unhesitatingly recommended, although there is much to be criticized even in them.

A chapter on the hydriatic prescription is made up largely of "pointing a moral" by recording the mistakes on "justly eminent teachers" and of "otherwise well-informed gentlemen" and a plea for the exact dosage of hydratic procedures. Naturally one can sit in judgment on others if it pleases him. *Chacun à son gout.* But we must demur to the statement that one can write a prescription for a hydric application with the exact dosage of a prescription calling for strychnin. No two patients suffering from chronic disease will be benefited by the same sort of hydric application. Every case is a law unto itself and no one knows what the exact technic for a given patient should be until one or more trials are made. He can then write a hydriatic prescription if it affords him any pleasure, but the technic may have to be varied the next day or the next week as the patient's reactive capacity changes.

In many instances wherein the efficacy of hydriatics is spoken of one cannot help feeling that the author claims too much. The only way to explain that a case of prosopalgia disappeared after one bath is that the patient took to the woods, or left town on the first train, because even hydrotherapy is not a miracle worker.

The index is very incomplete. One example may suffice to show this. The author says that hydrotherapy belongs to the most precious antineuralgic remedies, but on attempting to find where the subject of neuralgia is considered in the volume by consulting the index, we find the word is absent.

Although the treatise under consideration is one that deserves to be read and studied, we are of the opinion, after a careful examination of it that nothing can do the subject of hydrotherapy more harm than an overenthusiastic, combative advocacy of it, as if it were the only thing in the world. Hydrotherapy has its limitations and they are very serious. Every one admits its utility, but very few, fortunately, are so wrapped up in the subject that they are unable to see its limitations.

THE DISEASES OF THE LUNGS. By JAMES KINGSTON FOWLER, M.D., F.R.C.P., Physician to the Middlesex Hospital and to the Hospital for Consumption and Diseases of the Chest; and RICKMAN JOHN GODLEE, M.S., F.R.C.S., Fellow and Professor of Clinical Surgery, University College, London. Illustrated. New York and Bombay: Longmans, Green & Co., 1898.

THE authors of this work have not been misled in their attempt to present a "continuous picture of the medical and surgical aspects of pulmonary disease." A careful reading of their book shows a most painstaking effort to record the essentials of present knowledge of the diseases of the lung and pleura from the standpoints, respectively, of the physician and surgeon.

The introductory chapter on the anatomy of the lungs is carefully written, and while making no attempt to give all that is known on the subject, contains more than enough for clinical purposes. The chapter on physical diagnosis is especially thorough and shows the hand of the teacher as well as of the trained observer. The various diseases of the lungs and pleura are next considered, and are discussed fully as to their etiology, symptoms, pathology, and treatment. The surgical treatment of such diseases of these organs as lend themselves to intervention by the surgeon is fully described and is interesting as showing the advances made in recent times in surgery of the chest. Two especially interesting chapters are those on the bacteriologic aspect of pleurisy and on clubbing of the fingers. A chapter on pulmonary osteoarthropathy is included. It is plainly evident that the book is not only complete in the sphere it sets out to cover, but is characterized as well by certain knowledge and by a scientific spirit. The profuse illustrations are especially clear and of important didactic value. The book is to be conscientiously recommended as a serious study of the subject of which it treats.

THERAPEUTIC HINTS.

For "Scrofulous" Adenitis in Children.—

℞ Potass. iodi . . . . . gr. xxiv
Tinct. iodi . . . . . gtt. xxiv
Syr. gentianæ } aa . . . ʒ iii.
Syr. cinchonæ }

M. Sig. One to two tablespoonfuls daily.—*Verneuil.*

For Acne in Young People.—Instead of the frequently employed lotions containing a small quantity of sulphur and a large quantity of glycerin, VEIEL of Cannstatt considers it advisable to increase the sulphur and altogether omit the glycerin:

℞ Sulphuris sublim. }
Spiritus } aa . . . . ʒ v
Aquæ }
Mucil. acaciæ . . . . ʒ iss.

M. Sig. Apply night and morning.

If too irritating substitute a lotion containing from one to fifty per cent. boric acid.

For Tonsillitis.—

℞ Sodii benzoat. . . . . ʒ i-iv
Glycerini } aa . . . ʒ i.
Elix. calisayæ }

M. Sig. A teaspoonful every one or two hours.—*Stevens.*